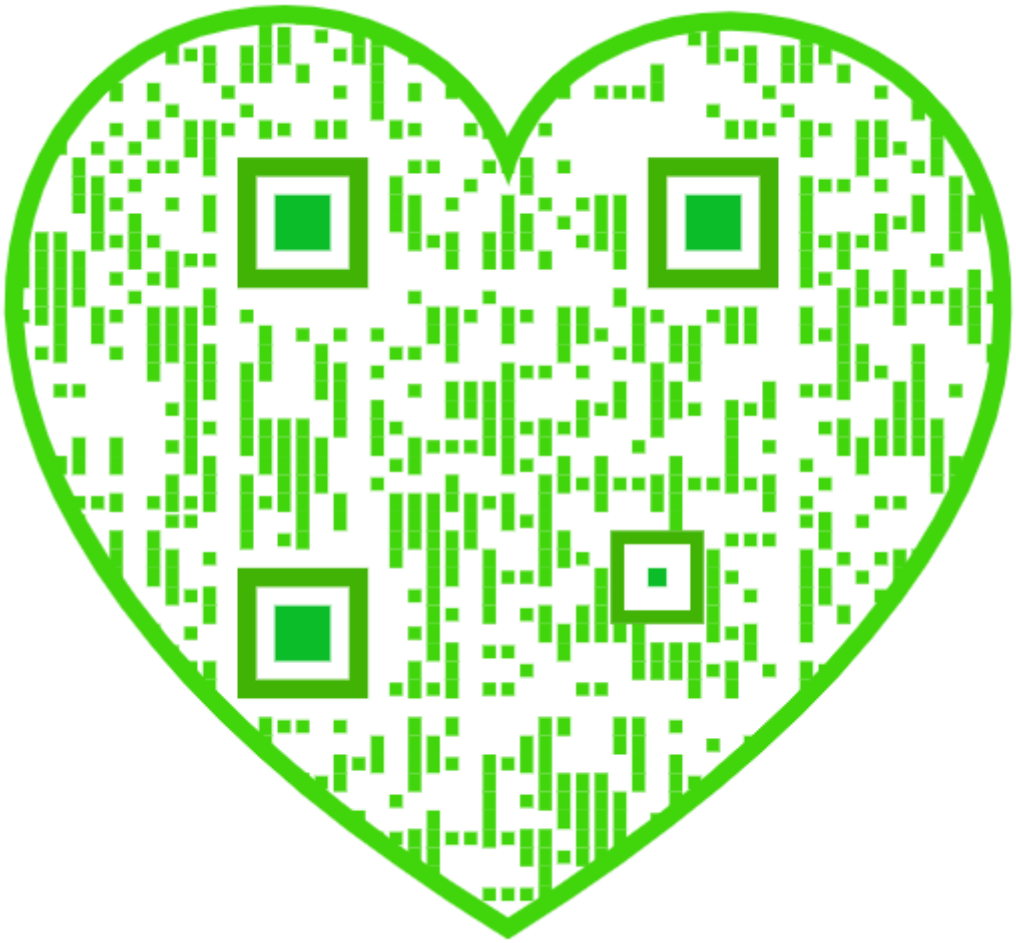

SCENE IN A VELOCIPEDE RIDING SCHOOL, 1869.

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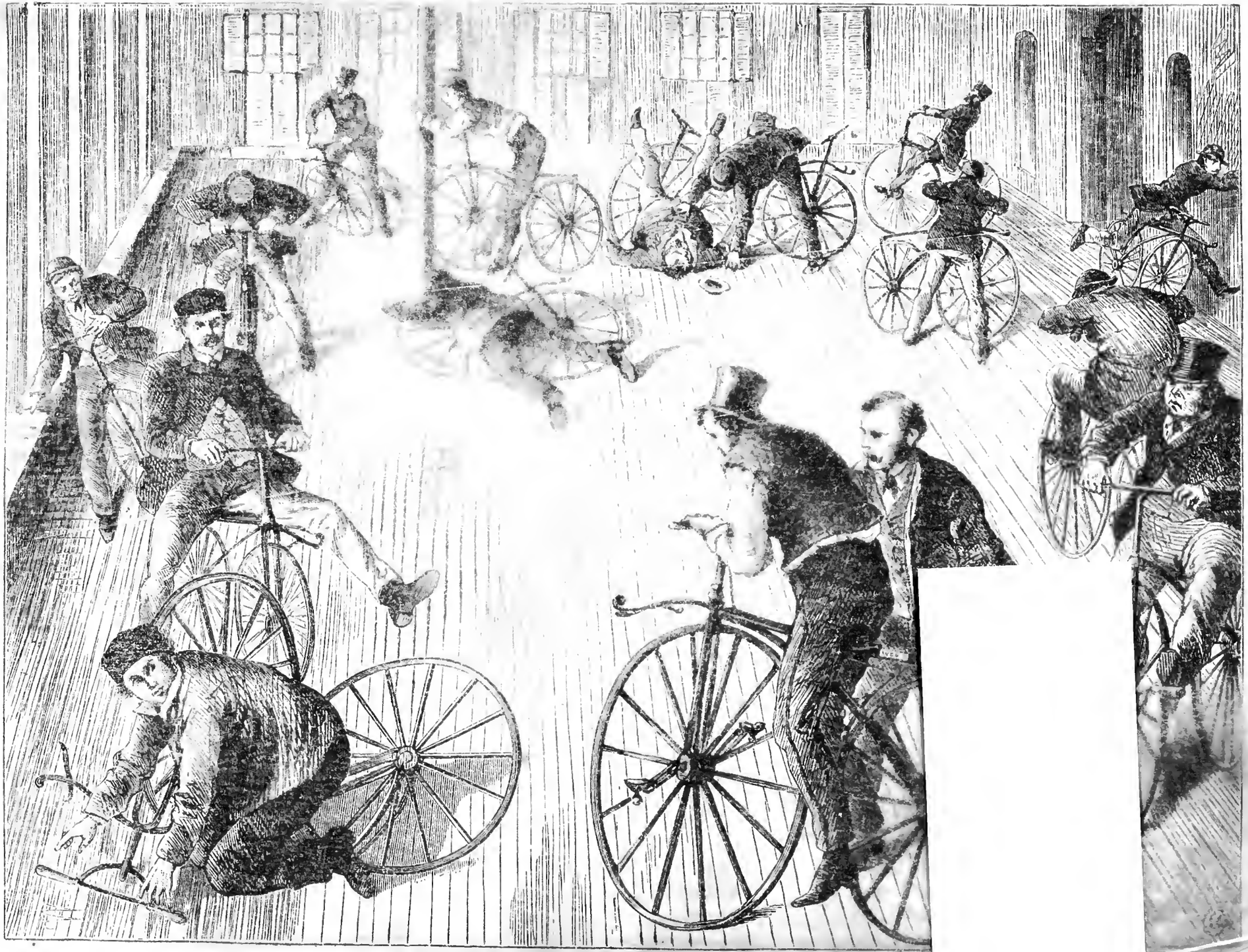

SCENE IN A VELOCIPEDE RIDING SCHOOL, 1869.

THE

NEW YORK

COACH-MAKER'S MAGAZINE,

DEVOTED TO THE

LITERARY, SOCIAL AND MECHANICAL INTERESTS OF THE CRAFT.

EDITED BY E. M. STRATTON.

VOLUME TEN,

JUNE, 1868, TO MAY, 1869.

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PREFACE.

It is with no small degree of satisfaction that we are now able to place Volume Ten of The New York Coach-maker's Magazine in the hands of its readers, in a complete form. In interest, we think it will be found equal, if not superior, to any which have preceded it, and, judging from the sale of the work, is quite up with its former popularity among the class of mechanics for whose advancement it was originally established. Indeed, we are told by those qualified to judge in such matters, that our Magazine is considered the most reliable exponent of coach-building yet published, and we think we may say, without fear of successful contradiction, that the ten volumes of this work will supply a more perfect compendium of useful instruction in the coach-maker's art than has ever heretofore been written.

Among the more prominent literary subjects, worthy of notice, are those entitled "The Lawyer Mechanic," and "The Boss' Story," by H. S. Williams. No one will finish the perusal of these life-like sketches without wishing for more from the same gifted pen. This desire, we are happy to say, will be gratified in the next volume, in a series of chapters entitled "The Adventures of Three Jours," representing as many separate branches of the trade. The historical series, so well received by our friends and foolishly ridiculed by our enemy, will be continued hereafter by others relating to Grecian art. But we have not space to enlarge, and must let the volume speak for itself; and thanking our generous patrons and attentive correspondents for their substantial evidences of regard and good wishes for our continued success, we subscribe ourself,

Yours fraternally,

Ezra M. Stratton.

New York, *April 6th*, 1869.

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PLATE.

1. Newport Buggy.—Wagonette.
2. Falling-top Barouche.
3. Drop-front Extra-seated Coal-box Buggy
4. New York Road Buggy.—New York Piano-box Buggy.
5. Spring-bar Buggy.—Park Phaeton.
6. Extension-top Barouche.
7. Turnover-seat Phaeton.
8. Standing-top Buggy.
9. Park Phaeton.
10. Wooden Front Cutter Sleigh.—Combination Phaeton.
11. Six-seat Family Sleigh.
12. Wagon-box Portland Sleigh.—Phaeton, with seat to turn in.
13. Landau.
14. Improved Victoria Phaeton.
15. Dog-cart.

PLATE.

16. Shifting-seat Cutter.—New York Buggy.
17. Coupé Rockaway.
18. Dog-cart.
19. Basket Phaeton.
20. Excelsior Buggy.
21. Coupé Rockaway.
22. Victoria Phaeton.
23. Excelsior-top Buggy.
24. Velocipede.
25. Four-seat Rockaway.
26. Turnover-seat Phaeton.
27. Physician's Phaeton.
28. Road Buggy.
29. Extension-top Phaeton.
30. Excelsior-top Buggy.
31. Turnover-seat Phaeton.
32. Road Buggy.
33. Six-seat Rockaway.
34. Two-seat Phaeton or Drag.

PLATE.

35. Four-seat Standing-top Wagon.
36. Four-seat Open Buggy.
37. Excelsior Oval Glass Hearse.
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39. Excelsior-top Buggy.
40. The Pearsall Velocipede.—Reynolds' Four-wheeled Velocipede.
41. Fan-tail Coupé Rockaway.
42. Coupé Front Cabriolet.
43. Combination Buggy.
44. Open Buggy with Top.
45. Caleche on Platform and Elliptic Springs.
46. Side-bar Buggy.—Grant Buggy.

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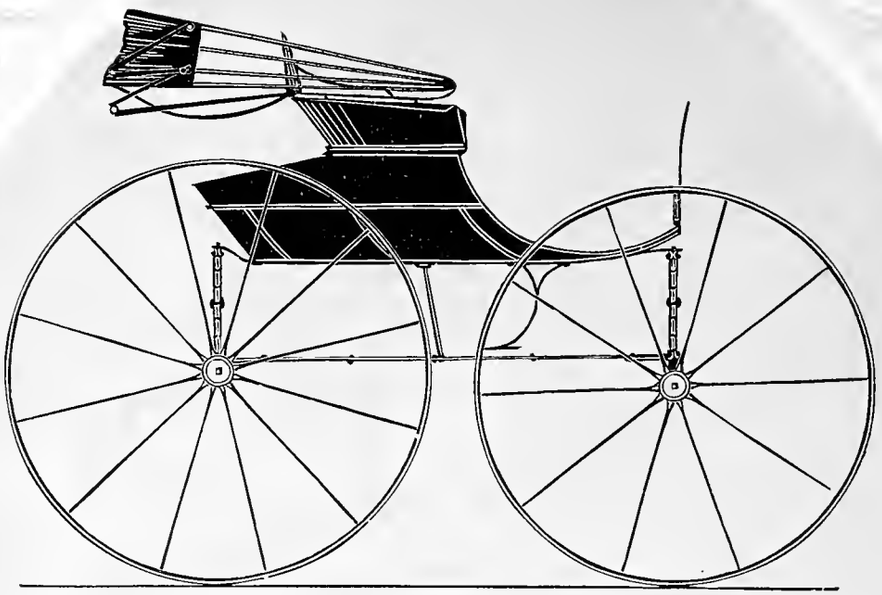

NEWPORT BUGGY.—½ IN. SCALE.

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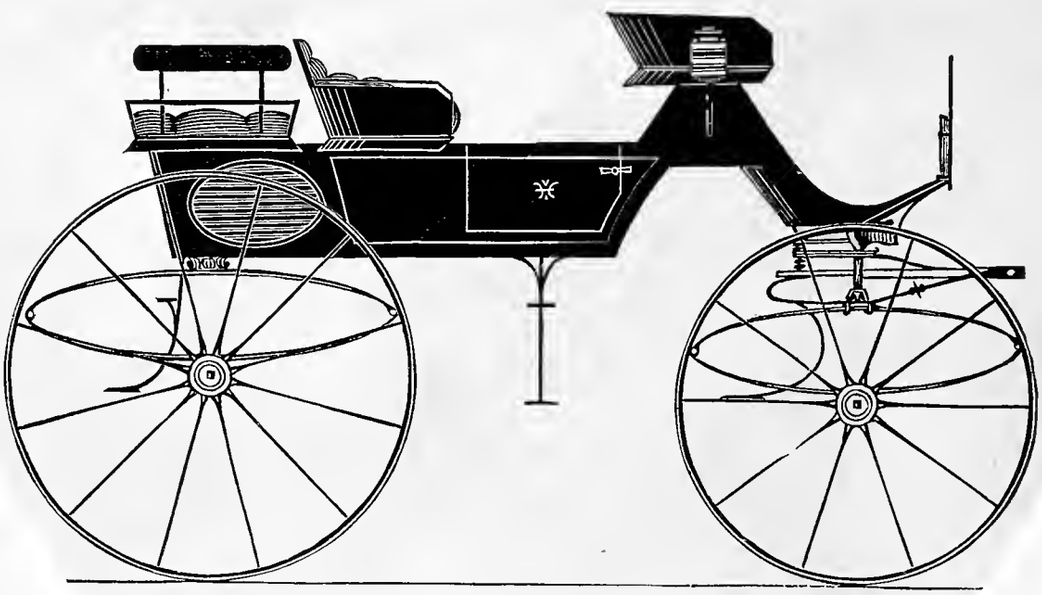

WAGONETTE.—½ IN. SCALE.

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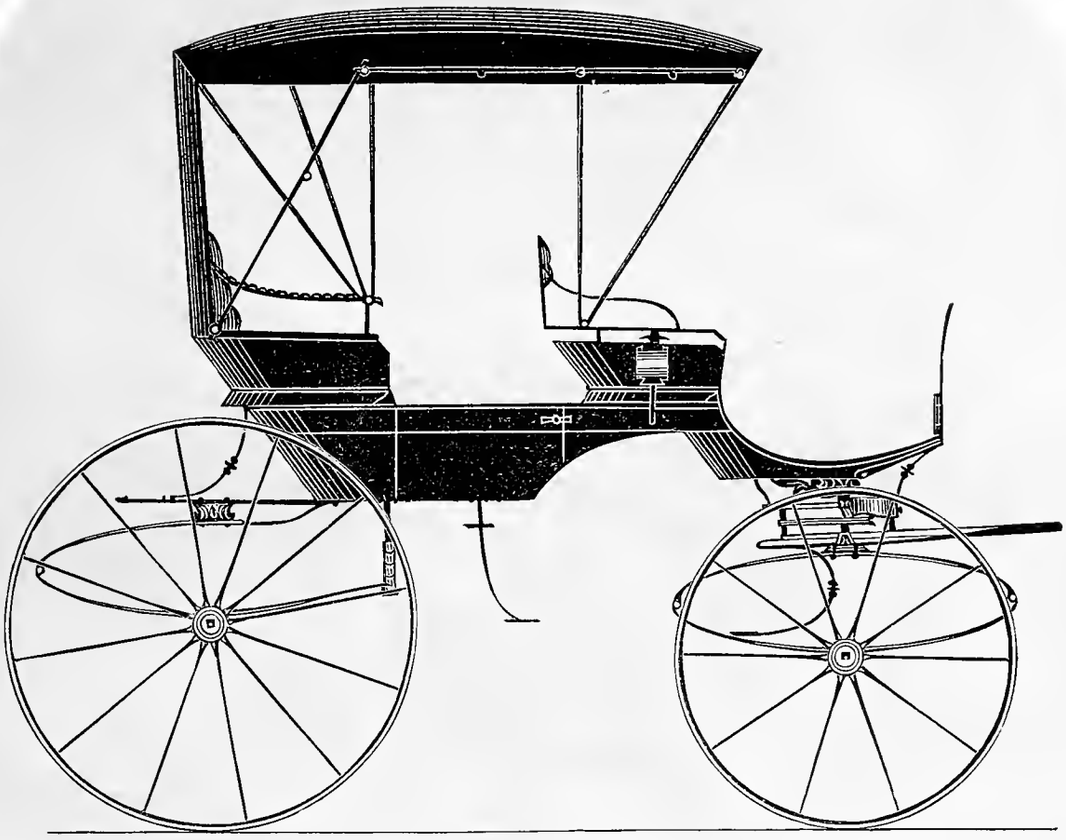

FALLING-TOP BAROUCHE.—½ IN. SCALE.

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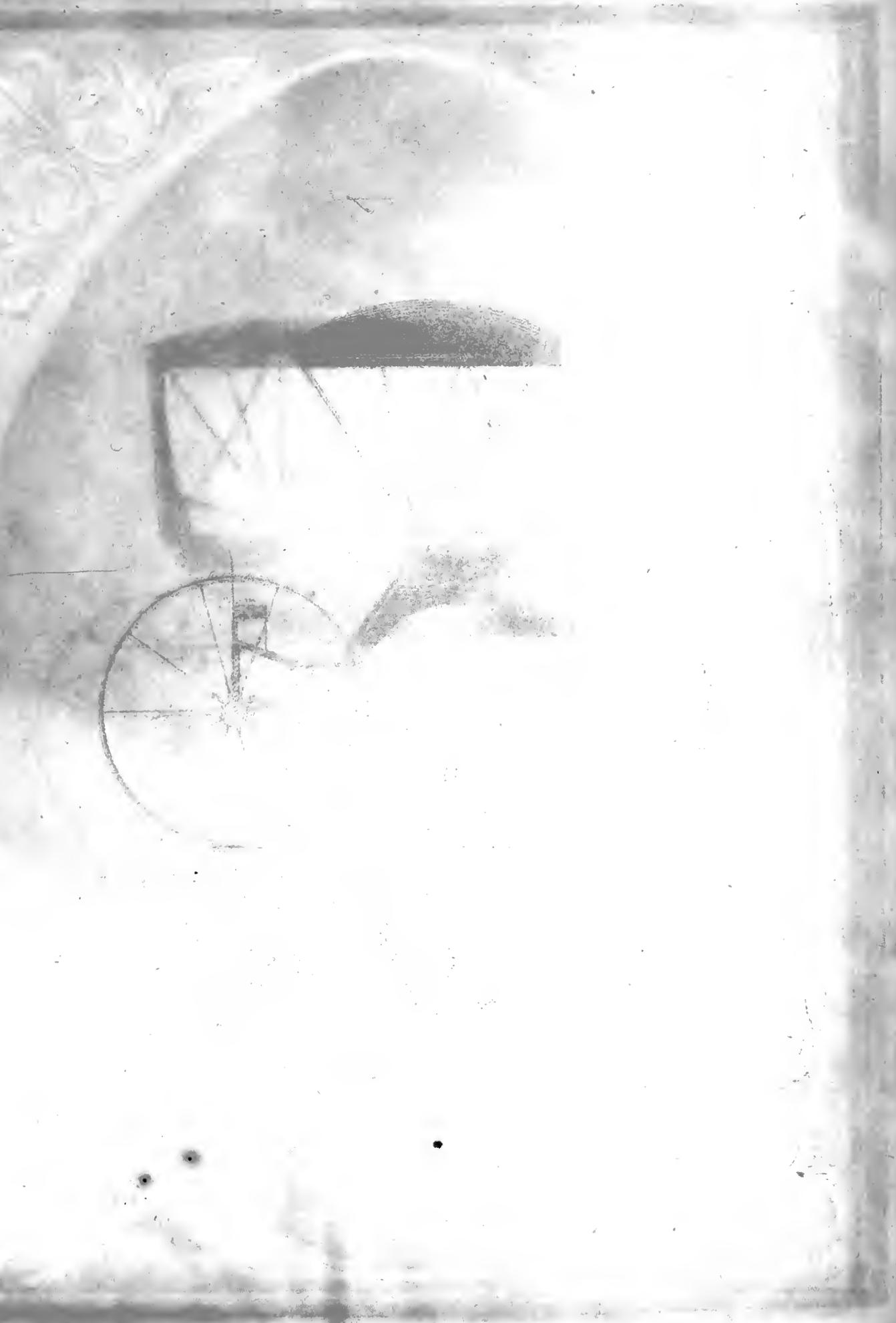

DROP-FRONT EXTRA-SEATED COAL-BOX BUGGY.—½ IN. SCALE.

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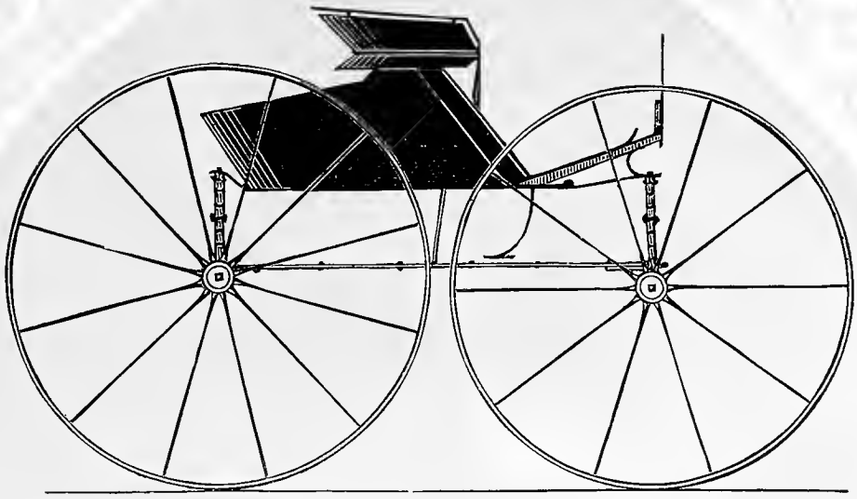

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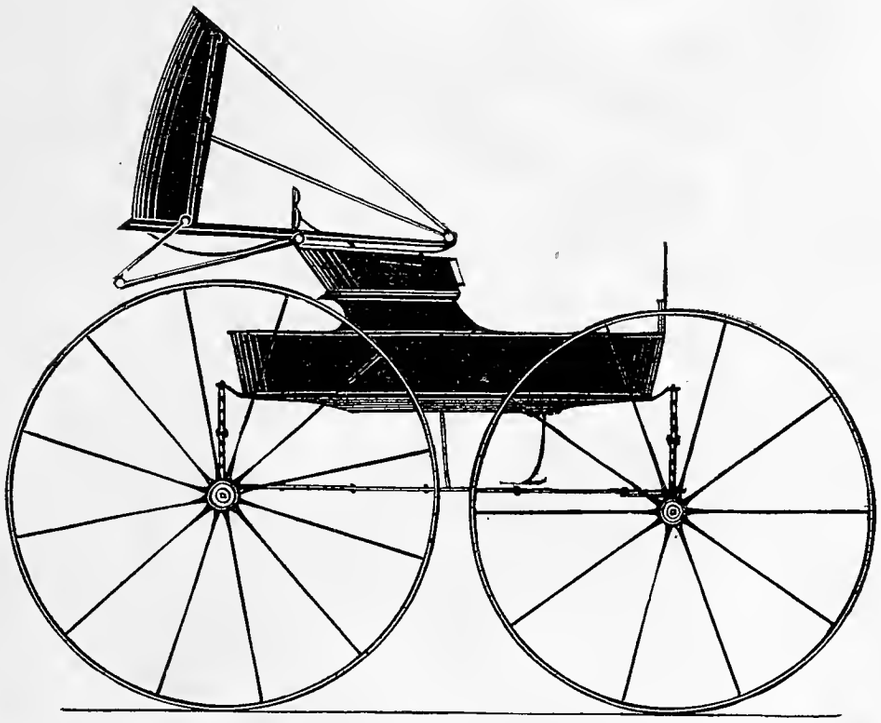

NEW YORK PIANO-BOX BUGGY.—½ IN. SCALE.

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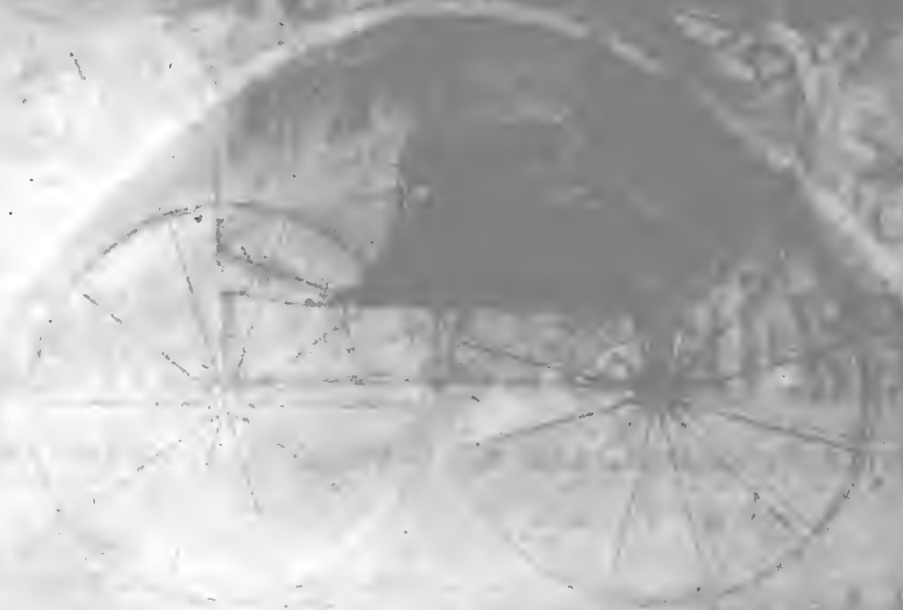
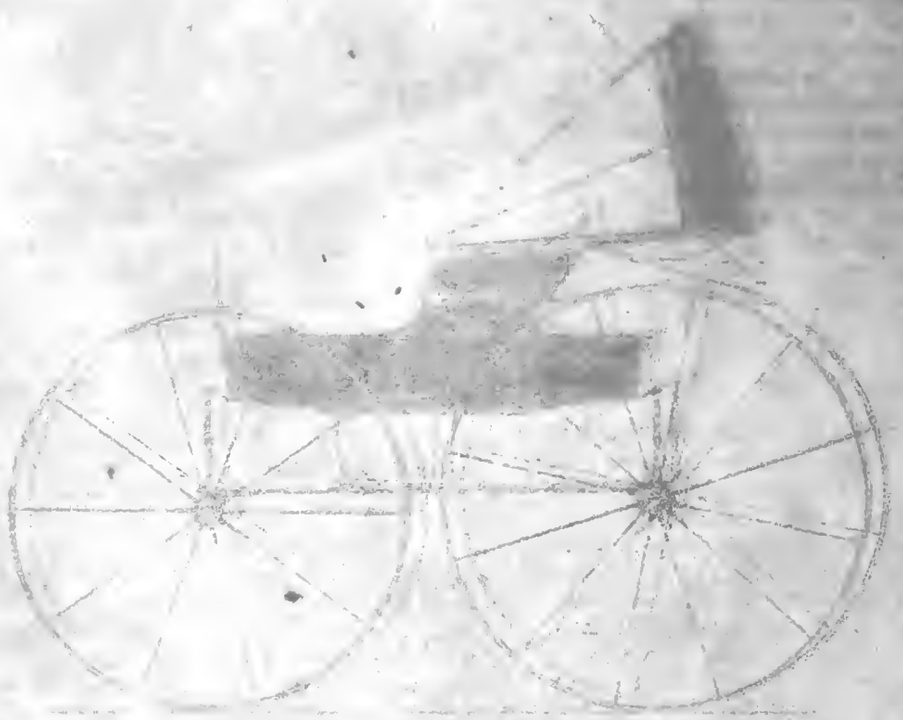




THE NEW YORK CARRIAGE MAKER'S MAGAZINE

DEVOTED TO THE LITERARY, SOCIAL, AND MECHANICAL INTERESTS OF THE CRAFT.

Vol. X. NEW YORK, JUNE, 1868. No. 1.

Mechanical Literature.

POWDER-POST AND HOW CAUSED.

Mr. Editor:—I received your note requesting me to give you my views in regard to "Powder-post" in timber. I recollect speaking with you about the cause some years since when you called on me. It is generally believed, or supposed at least, that "Powder-post" is natural, or that the little worm which causes it, is indigenous in the timber, and I have found many "workers of wood" that did not seem to know what caused the powder in it. They knew, or had heard, that timber cut at a certain time of the year would not powder-post; but did not know why —and many do not yet know that it is caused by a worm. I have been to a good deal of trouble, and have tried many experiments, to keep timber sound and free from it; and think I understand the matter pretty well now, in cutting and seasoning hickory, as that is the only kind of timber there is much trouble with, in this section of country. I have seen ash and oak powdered some, but not to any great extent.

The enemy of hickory is the large borer, and the small powder-post worm. They both operate in about the same manner and at the same time of the year. The insect that deposits its eggs in the bark for the large worm is about the size of the common honey bee, and can be seen in the spring after the weather has become warm for a month, at work, running about on the logs very lively, depositing their eggs. They only work a few days, but they mean business while they are at it.

Passing some bending works two or three years since, my attention was called to a crowd that had collected around a pile of hickory logs, looking at these insects at their work; and by the way they did it, you could see they were *not* working by the day. The eggs they deposit hatch very soon afterward, and grow rapidly into a white grub from a half to three-quarters of an inch in length, which bores its way into the sap, or white of the hickory, about two inches, and then turning runs lengthwise with the log. At first, they throw out the dust, or borings; but after running lengthwise from two to four inches, they fill up the hole behind them, where, in the course of the summer, they change into or nearly to the same bug or insect that comes out the next spring to work again. The ravages of the insects can be entirely prevented by taking off the bark from the log before warm weather comes on in the spring.

The small powder worm is propagated in the same manner as the large one by a kind of half bug, half fly looking insect, of a dark greyish color. They are about half the size of the common house-fly, and very much resemble the small swallow-tailed horse-fly. They are very shy and move very quickly when running. They can fly, but seldom do so, and unless you come very quietly upon them, you would not be very apt to ever see them. They not only commence in green or partially seasoned timber, but will work in old seasoned stuff that has been free from them for several years. I have had spokes that had been finished four or five years, eaten by them to a honey-comb on the inside, when not a hole larger than the point of a cambric needle could be found on the outside. This is proof that they do not travel from one stick to another. I once had about half a cord of split hickory butt-logs set up on one end in a shed, with a lot of ash butts set around the hickory, so that it was concealed except the top ends. The first that I knew, the ends of all the hickory was powdered about half an inch in depth, while not a stick of the ash was eaten. Had it been natural for the worm to breed in it so as to turn into powder—because it was cut the wrong time of the season—it would have been eaten a foot below the top ends just as well as near the surface. I have noticed that when a stick or plank was lying down, they always begin at the side in preference to the end. The insect that lays the egg did not like darkness, and so worked on the end of the wood because it was lighter there.

The reason why timber cut at one season of the year powder-posts more than at another, is easily accounted for. If cut in the spring, when the tree is full of sap, it furnishes more nutriment for the worm, and the insect has instinct enough to deposit its eggs in a place where its young will have something to live upon. Some may think they do not know enough for this; but here is a case that illustrates it: A friend of mine who had studied the habits of the curculio while they were destroying his apricots and plums every year, found that the worm came

Entered, according to Act of Congress, in the year 1868, by E. M. Stratton, in the Clerk's Office of the District Court of the United States for the Southern District of New York.

out of the plum that had the egg laid in it, and it had dropped off after the grub had hatched and eaten in to the heart; afterwards it entered the ground, where it stayed until warm weather in the spring, when it came out a bug again. Having a stream of water on his place, he concluded to wall up the bank and fill it in, and there plant his plum-trees leaning over the water, thinking to destroy the worms that dropped in the stream, and by that means keep them from propagating. But they beat his calculation by not stringing any of the fruit that hung over the water, as they seemed to know that that was no place to raise their young in.

Timber cut after the tree has done growing, between the latter part of the summer and early winter when there is not much sap or sweetness in the wood, is not apt to powder-post. But I think timber cut towards spring with the sap in it, if seasoned slowly under cover, or when it is a little damp, the first year is stronger, tougher and heavier, than if cut when the sap is entirely out.

If timber is kept in a very dark place before the bug has laid its eggs, it will not get powdered, for they do not like darkness any more than a common house-fly, but if once in, they will eat on even if it is dark. Timber soaked in strong brine or salt water till it is saturated, will not be eaten by the worms. Salt and darkness are the only two things that will prevent them that I know of. I have tried a coat of spirits of turpentine on a pile of hickory plank, and they did not seem to mind it, and have painted the plank black; and even steaming for a short time—say as long as we generally do to bend—will not kill them after they once get started.

If any one has learned anything from my experience and observations with bugs and worms, it may do the craft some good, and I shall be satisfied. Respectfully yours,

D. W. B.

OUR ASSYRIAN MUSEUM.—I.

SACRED history informs us that Nimrod was a mighty hunter before the Lord. And the beginning of his kingdom was Babel, and Erech, and Arcad, and Calneh, in the land of Shinar. Out of that land went forth Asshur [one of the sons of Noah], and builded Nineveh. (Gen. x., 9–11.) The same authority calls Assyria the land of Nimrod. (Micah, v., 6.) According to Usher, Assyria was founded some fifteen years earlier than the Egyptian kingdom, and is thought by some to be the first kingly government ever organized. This was about the time of the patriarch Abraham. Ctesius (quoted by Diodorus Siculus) says Nineveh was founded by Ninus, B. C. 2183. Africanus (quoted by Syncellus) says the Assyrian monarchy was established B. C. 2264; Eusebius, B. C. 2116; Emelius Susa (quoted by Valerius Paterculus), B. C. 2145; Polyhistor (in an extract from Berosus), B. C. 2317. It is agreed by nearly all writers that this empire did not continue longer than 1300 years from its rise until its fall in the days of Sardinapalus, who died about B. C. 743 (A. M. 3158). If we go back 1300 years previous to the death of Sardinapalus, we find that Ninus must have reigned two hundred years after Nimrod, thereby confirming the chronology of Berosus. Some writers are of the opinion that Babylonia and Assyria were originally two distinct kingdoms, and that Ninus founded that of Assyria, making Asshur the founder of the *monarchy*, and Ninus that of the *empire*.*

As we have seen, the first monarchy ended with the death of Sardinapalus; but during his reign, Arbaces, king of Media, leading his army across the mountains of Kurdistan, and conquering the people, made himself king of Assyria, about 804 years before the birth of Christ. After the death of Arbaces, the Assyrians shook off this foreign yoke, and set Pul, the first of a new line of kings, on the throne, who reigned twenty-one years. Tiglath Pileser succeeded him (B. C. 753); after him Shalmanaser (B. C. 734), who was followed by Senacherib.

The sculptures and bas-reliefs, copies of which will be given in these articles, were exhumed chiefly on the supposed site of Nineveh, in the years 1846 and 1847. These originally ornamented the walls of palaces and temples, having been preserved nearly twenty-five centuries beneath vast accumulations of dust and rubbish, unknown to succeeding ages. The mounds excavated stood on the eastern bank of the Tigris, a few miles southward of the modern Mossul. The bas-reliefs brought to light are evidently not all of the same date, nor from the same edifice, but are presumed to be the productions of various periods of Assyrian art.

We have no definite data from which to fix the time when chariots were first introduced into Assyria, but there is little doubt that this was done at a very early period in its history—possibly by the army of Sesostris, king of Egypt, who, we are told in the fragmentary history of Manetho, "having appointed Armais, his brother, viceroy over his kingdom, went on an expedition against Cyprus and Phœnicia, and waged war with the Assyrians and Medes, all of whom he subdued, either by force or voluntary submission by the mere terror of his power." † At this time the empire had existed about three hundred and nine years, but evidently was far behind her more prosperous rival in art and science, although, as we shall show, the chariots of Assyria were a very great improvement, at the time of which we write, over the Egyptian, where our last chapter ended, there having intervened since about fifteen hundred years.

The engraving represents the passage of a river by the first division of the Assyrian army, indicated by the presence of the king, who, holding in his hand two arrows—shows that he offers battle—is engaged in conversation with a eunuch, who, while clenching a bow with the right, points distantly with the left hand, perhaps showing the king the position of the enemy. The chariot, in which the king is seen standing, has been put into a boat of peculiar model, and is being rowed by three oarsmen, the progress of which is still further accelerated by two men on the bank of the river towing, while under the pilotage of a helmsman, who for rudder uses a long paddle. At the left, in the slab from which our design is taken, four horses are represented as swimming, guided by the man seen standing in the boat, while above a man is swimming along, buoyed up by an inflated life-preserver of skin or other material. Following these are soldiers in a nude state, and swimming, all mixed up with boats and horses, showing that a large army is on the march, evidently through the enemy's country.

The body of this chariot differs but little from others

* See Bonomi's *Nineveh and its Palaces*, p. 59.
† Josephus, *Contra Appian*, lib. 1, cap. 14, 15.

THE KING OF ASSYRIA CROSSING A RIVER WITH HIS CHARIOT—FROM A BAS-RELIEF FOUND AT NINEVEH.

represented in the Nimroud sculptures. Our principal object in this instance is to show the reader the arrangement of the pole and its accompanying furniture, which in other examples will be hidden by the horses. This pole, bound at the base with rings, is very graceful in form, and made quite ornamental by the addition of a carved horse-head finish at the end, from which a yoke dangles. It is noticeable in this picture that all except "his majesty" have their heads uncovered, out of respect to him.

ARTISAN'S REPORT OF CARRIAGES IN THE PARIS EXHIBITION OF 1867.

We have waited a long time for the appearance in England of the official report of the jury on carriages, thus far in vain. Meanwhile our London correspondent has sent us the report of Thomas Magrath, a coach-maker's foreman, who visited the Exhibition as one of the committee appointed by the London Society of Arts. It will not fail to interest our readers. He says—

I have the honor of submitting, for the information of the Society of Arts, the result of my visit to the coach-making department of the Paris Exhibition; and taking coach-making generally as a branch of industry, there is little in its working details, compared with other branches of manufactures, requiring a more comprehensive knowledge of artistic design. The artisans employed in the manufacture of carriages have many difficulties to contend with, as that portion of the public who use carriages, often require one carriage to answer the purpose of three or four, and each one in its general appearance must be as graceful and pleasing to the eye in its altered arrangement as though it was expressly made for that purpose; therefore, it is of the greatest importance to the workmen that they should possess an intimate knowledge of drawing and mechanical appliances. And I regret to say that in a great city like London, there are no classes or instruction given by any professional draughtsman in connection with this trade; and from what I have observed in the work-shops in Paris, and also from the many drawings and sections of various parts of carriages, admirably executed, in the Paris Exhibition, I must confess that our French fellow-workmen have greater facilities for obtaining a more scientific knowledge of the construction of a carriage than the English workman.

I have noticed also that their system of work is different from ours. Their woodwork generally is very heavy, and, as a general rule, is not so neatly put together as ours, except in one establishment, where the work of the body was as well finished in every respect as could be desired. I was very much surprised at the great quantity of heavy iron-work in the bodies; the edge plates of a brougham were much heavier than what an English coach-maker would put in the largest landau. I think that if one of their light broughams was weighed when finished, and compared with one of ours, there would be a great advantage in favor of an English one, as to lightness; although some of the French ones look very light in appearance they must be heavy in actual weight. I consider the arrangement of the smith's shop a desirable one; every carriage is completed in all its details, as to the making and fitting of iron-work, before leaving, saving a great deal of time and giving the workman greater facilities for finishing and adjusting his work with greater nicety of finish, which is one of the principal features of French coach-building.

The iron work, generally, is of superior finish; and what I have seen of the forging, in its rough state, was creditable. There seemed to me to be a great division of labor, and a great many mechanical appliances employed in stamping and ornamental iron work; and from what I have been informed, as to the rate of wages paid to the class of men engaged in this branch of the trade, and the privilege of working seven days a week, the extra day making up the deficiency in wages, I am of opinion that the French coach-makers can produce carriages cheaper than the English manufacturer.

In examining the carriages exhibited in the French de-

partment, I was surprised to find that the majority of them were copies of English construction, especially in the under-carriages; with this exception, that theirs was a great display of unmeaning curves and sweeps introduced in the iron work; crowding the carriage without any advantageous results as to improvement or durability, and destroying the gracefulness of outline which is essential to a well-constructed carriage. This overloading of the carriage with a quantity of useless iron work would appear to me to be a characteristic feature in the manufacture of French carriages, from its being so generally adopted. There is also a very great deficiency of taste in the lines of the bodies, their mouldings being very heavy, and the outline of shape possessing no claim to gracefulness whatever; giving a heavy, clumsy appearance, and not in proportion to its under-carriage, which is generally so light.

In painting, some of the work was well finished; and one carriage, exhibited by Lelorieux, where imitation of bamboo cane was painted on the door panels, was a beautiful specimen of workmanship. There was also a brougham, by Million, Guiet, and Co., hung on a perch and platform springs and without the usual braces; the body attached to the carriage by a light spring, a novelty in its construction, and deserving special notice for its superior finish, in all its details, and good taste displayed in its painting and trimming. I was disappointed in respect of the barouches, having always supposed that that description of carriage was superior to all French manufacture; that the head, when down, had the great advantage of being perfectly flat; and certainly, to an unprofessional eye, it had that appearance; but this was more than counterbalanced by a sacrifice of the depth, at the point nearest the door, produced by the elevation of the standing pillar and neck-plates of head. The effect produced by this arrangement destroys that lightness of panel, which is an important point to be gained in the construction of the park barouche; and which is so admirably arranged in the barouches exhibited by the firms of Peters and Sons, and Hooper and Co., of London.

In reference to the chariots exhibited by three of the leading French firms, and which I may state is a leading article of the London coach-builders, I have little remark to make beyond this: that it has given me an opportunity, which I never had before, of comparing the heavy work of the two countries. I give great credit to the French manufacturers for what they have exhibited in this particular branch of coach-making; but most certainly the London builders are not to be surpassed in the construction of a chariot, the best of the French chariots, in my opinion, being the one exhibited by Binder; but all three of the bodies are deficient in beauty of outline, and heavy in appearance.

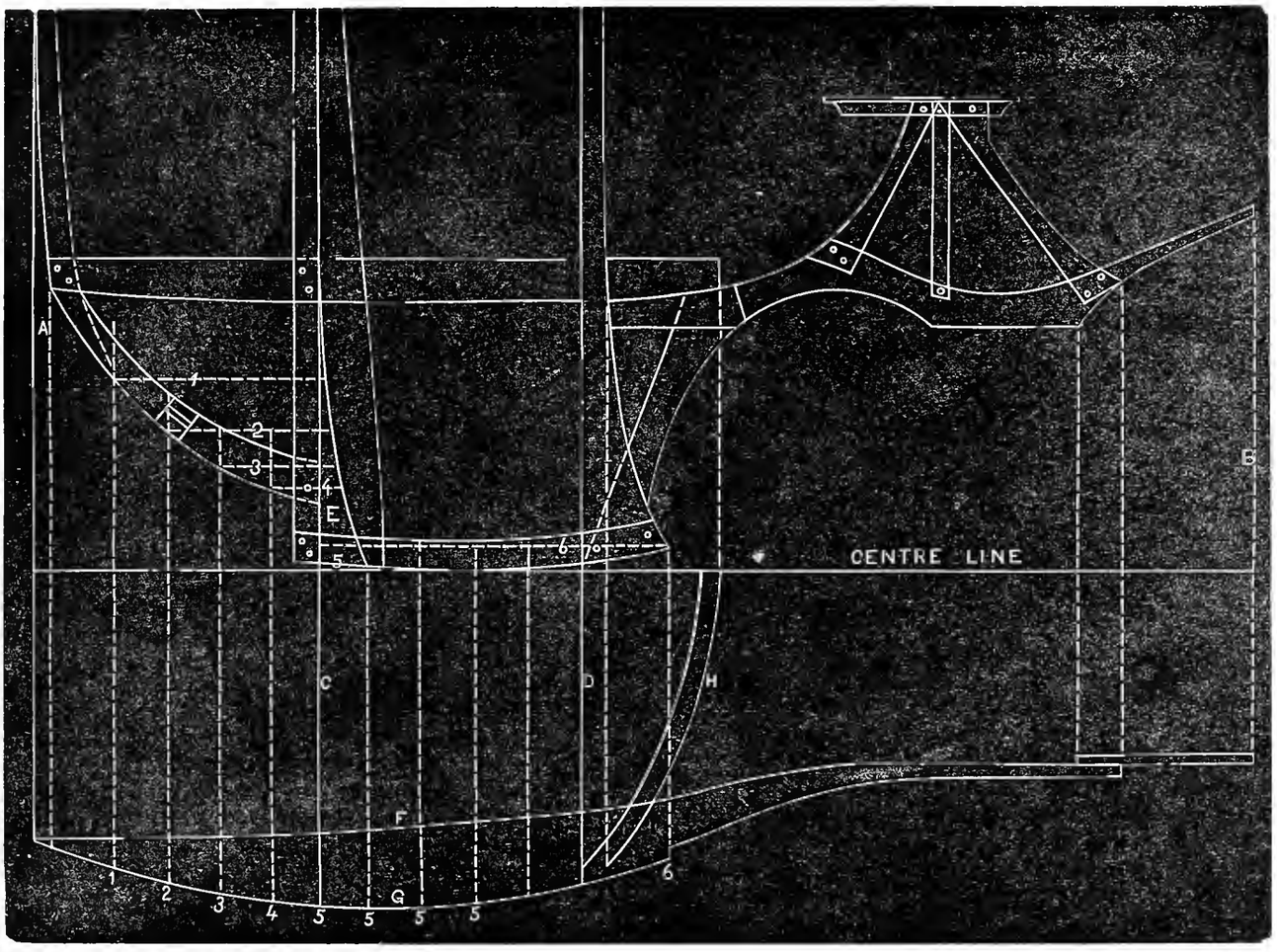
The landau hung on C and under springs, with iron perch, exhibited by Binder, is as near a copy of Peter's, of London, as could be made, except that the front loops and seat have not that same easy curve which is peculiar to their C-spring landaus. The head of this carriage falls in a good line, and in painting and trimming is essentially English, and well made. I have not seen any effective appliance for opening and shutting of landau heads, that requires any special notice, applied to the French landaus. But their several arrangements for opening the door-glass by the unlocking of the door, and so prevent the breaking of the glass by attempting to open the door when the window is half up, seemed to work well. How far it may be effective in its working after the carriage has been used a short time, and settled to its bearings, I have had no opportunity of judging. But, having seen one in the course of construction, it seemed to be very complicated, and would be awkward to adjust, if out of repair, in any part of the country where an artisan would be difficult to get. I have observed several descriptions of steps arranged to open and shut with the door, all well made, and working well; but there was one great objection to their use in a general way—they were liable to make a deal of noise. Indeed, some of them rattled a good deal already, which of course would increase by the vibration of the carriage at work, and be a source of annoyance; they were all ingeniously contrived and well put together, but, as far as my experience goes, would not be suitable for English carriages, for the reason stated.

A mail-phaeton, by Delaye and Co., hung on iron perch and C springs, was deserving of notice for the excellent forging of the perch and wings in the solid iron, and also for the vice work and finishing, exhibited without painting; a very good specimen of iron work. The state-coach by Kellner was tastefully got up, and I think that description of work is more in keeping with the fanciful devices of the French workman, the trimming being well finished, and with great artistic taste. Indeed, all the trimming generally is of a superior description. It may hardly be worth while to mention the drag of M. Belvallette. I think there cannot be any difficulty in discovering where the original design came from, an eminent London firm having sent a great number of that description of carriages to Paris. I should have liked to have seen some new and improved designs from our French neighbors instead of copies.

I have now given the principal points that attracted my notice in the French department; and I may close this portion of my report by remarking that there seemed to be a great deal of attention given to finishing, in the introduction of little tasteful fittings in the inside of the carriages, which I think forms a distinct branch of trade in Paris, and which are neatly arranged, and give a certain appearance of usefulness and elegance to the interior, and which I have had myself great difficulty in procuring in London, and at a very high price compared with what is charged in Paris.

(To be concluded next month.)

PICTURE FROM INDIA.—A gentleman writing from India gives us a vivid picture of the sacred fair held at Sharmukteezer, on the Ganges, in November last. He says: "I took passage [from Moradabad] on a mail-cart, November 8 . . . . and in five hours arrived within two miles of my tent, where a pony awaited me to carry me the remainder of my journey. All along the road we overtook carts filled with human beings, but when we came within five miles of the place of gathering, the roads were almost impassable. The best description that can be given is, that it was a "perfect jam" of carts, oxen, horses, mules, asses, women, and men. While the driver would be urging his weary animals, the women enlivened the monotony of the journey with songs of praise to the great object of worship. In this manner, for three or four days, the multitudes gathered, until nearly half a million of souls had met to have the "guilt of sin removed" by washing in the Ganges.



COUPE WITH CANT—THREE-QUARTER-INCH SCALE.

GEOMETRY OF CARRIAGE ARCHITECTURE.

BY A PRACTICAL COACH-MAKER.

BODY CONSTRUCTION.—PART TWENTY-FIFTH.

This diagram represents the coupè which appears on plate xliv, volume nine, and shows the mode of construction in detail. In putting this cant on the blackboard, in the first place draw the centre-line marked on the plan; this gives you a base from which to operate.

Next draw dotted lines A and B, showing the extreme length of the body, as well as the cant below. Afterwards draw lines C and D, giving the width of the door. Between the hind standing and door pillar turned face-side out, at E, is shown the turn-under given for the swell of the body. The mode of framing the boot, back pillar, &c., are made sufficiently plain in the drawing for all practical purposes.

The dotted perpendicular lines as well as those drawn horizontally and numbered exhibits the square rule, which the workman is supposed already to understand. Instructions for laying these off, will be found on page 116, volume ix. At E is given the horizontal sweep of the side panels, at C that of the top-rail, from the position of which it will be seen that this body contracts in front; H the sweep of the compass-front.

Home Circle.

NATURE'S TEACHINGS.

BY ROSETTA A. ROSE.

Earth may be filled with beauty;
Earth may be filled with love;
If we'll but heed the message
That's sent us from above.
The message that is written,
On every beauteous scene—
That dwells 'mid summer's glory
Or wears her robes of green.

The glory of the morning,
The sweetness of its breath,
Tells us a morn is coming—
A morning after death—
Where joy shall live immortal
And storms no more be known;
Where love and hope stand smiling
Before God's holy throne.

The flowers that bloom in beauty,
And with the breezes weave
A wealth of fragrant sweetness
That makes it joy to breathe,
May lift our thoughts to heaven
From sordid things of earth;
And teach us of that country
Where beauty had its birth.

And when the angry storm-winds
Blow in their furious might,
And turn the day's glad brightness
To darker hues of night;—
E'en they may teach a lesson
Of true and lasting worth,
And give our hearts fresh courage
To bear the ills of earth.

For by affliction's lessons
The soul is purified,
And by her bitter teachings
Our hearts are freed from pride;
As flowers bloom the sweetest
When watered by the storm,
So are our hearts made better
When tried by sorrow's form.

Thus we may learn from nature
Lessons of purest worth,
Whether the storm-wind rages
Or sunshine gilds the earth,
No flower blooms so lowly
Within the quiet dell,
But it has precious lessons
Of trust and hope to tell.

BREAD-WINNING.

BY MARY A. E. WAGER.

CHAPTER I.

IRENE BANKS opened her desk and wrote:

IN THE FLESH, June 18, ——.

Dear Humphrey:—I find in this degenerate age that bread-winning is as much the inheritance of Eve as of Adam, and you know my slender income goes but a little way in satisfying my extravagances.

I ought to be rich, for some very extraordinary reasons:

Firstly, because what wealth brings is in harmony with my nature.

Secondly, because I am not strong enough to earn money.

Now what shall I do? My diploma that says in Latin flourishes I am "Mistress of Arts," ought to be an open sesame to school-rooms. But I should hate teaching—such a common, everlasting, dernier resort of decayed gentlewomen.

My physician says I *must* do something to myself from myself. He was very generous in saying what I should *not* do, and smilingly pocketed his fee and left.

So now I turn to thee, friend of wonderful resources, to strike out a tangent for me to go off on.

Infinitely yours,
IRENE BANKS.

David Humphrey, Esq., 220 —— Avenue.

"There! that is one step in the right direction, I hope. I do wonder if there is an atom of my brain which I have not turned over in my search for an available idea"—which soliloquy paved the way for a new brain rummage. So after despatching her letter she sat down to an old task, to think. And this thinking gives us an opportunity to talk about her.

At twenty-one she completed a course of study and came home, as she expressed it, a "scientific invalid." It was the not uncommon error of having sacrificed bodily strength to ambition, of giving up flesh and blood, nerves and muscles, as fuel to keep the brain machinery in operation. But as nature never fails to balance her accounts, so Irene Banks found month after month slipping by in a weary, tired way, and she failing to grow strong again. Then bereavement came and she was orphaned, while something akin to poverty laid its hideous gripe on her heart. At eighteen she was the handsomest girl for miles around,—but forever encased in her own peculiar afar-off atmosphere, which as effectually guarded her from coarse associations as a more visible shield could have done. Those whom she admitted in the precincts of her sympathy, knew her worth as invaluable. While those who failed to hold a key to her appreciation, contented themselves by shooting malicious thrusts at her, that very intelligently fell short of their mark.

She was now twenty-five, and as far removed from the standard of handsomeness as she had neared that of beauty. Where in youth she had attracted by her sublime and darling independence, she now fascinated by her more womanly softness and tenderness. Not that she had lost any of her old dash and impulse; only the years which had brought her weariness, compensated in another way by developing within her the depth and strength of tenderness—which cushioned her old, sharp, hard points of character, rendering her all the more charming to the friends who now came to her, with riper and more artistic natures.

But now the summer had come again—so rich, so luxurious; and Irene felt so poor and hungry. But her strength seemed coming back, and she was asking what she could do to bring herself money. It was no use mincing the matter, she said. She was human, and had heart and brain and body clamoring for their several necessities. She had a home with a brother, and she had her saddle horse "Blackthorne." And then she had accomplishments which were no available aids, and a great deal of pride which was only a lion in the way.

After her father died and it was known how little was left to her, the usual gossip ran around the neighborhood, breeding surmises as to the probable disposition Irene would make of herself. As is usual in such cases of feminine distress, matrimony seemed the only available way to dispose of her. But as Irene was not ordinary driftwood, so no ordinary flood-tide would be likely to sweep her on to the great realm of double living.

Three days later she felt a little inward fluttering at the superscription of Humphrey's letter, which, read backward or forward, amounted to the following mannish impracticability:

"MY DEAR PRINCESS:—What shall you do? Ah! my dear child, that is the great cry everywhere, and fair women are starving for work, and there is no work for them. But you come, sit on my knee, and I'll tell *you* what you may do.

"You have long wanted to go to Germany—now why not go? It will not cost you much more to live there than here, and then for your encouragement let me tell you: I had a boy cousin who went from Scotland to Heidelburg to finish his studies. He was a frail lad, and so my aunt and her daughter went thither and took a chateau in order to be near him. Along comes the Eigenthumer, titled and rich—sees the young Scottish

girl, falls in love with her and they are married. There, now! if you don't go to Germany and come back a Margravine at least, there is no virtue in good advice on my part, or good looks on yours!

"Therefore go to Germany. See Bismarck—he will fall in love with you, (for is he not human?) and in a year or two, you may be Empress of Europe!

"Faithfully yours,

"HUMPHREY."

"Germany—Bismarck—Empress of Europe! America, Blackthorne, Empress of Poverty! Matrimony, matrimony! *et tu Brutes!* Oh Humphrey!"

She leaned back in her chair with the old tired look in her face. It seemed as if a strong arm she had leaned on had been suddenly drawn away. She sat so a little time, then leaning forward, looked at her slender hands, and reached one out for her garden-hat, and said she would go over and see Grandfather Day, as he was familiarly called.

She was philosopher enough to go out of doors, and nature gave her enough philosophy for a text before she entered her room again.

Grandfather Day sat on his porch reading, but raised his eyes as he heard her footsteps on the flagged walk which ran from the gate to the house like a permanent invitation for people to come in.

"I am glad to see thee, Irene! Thee's well, I hope?" said the old man with a beaming face, and giving her a seat.

"Yes, grandfather, well I believe. I came over to have a talk with thee."

"There's nothing serious happened, Irene?" he asked anxiously, seeing the seriousness of her face.

"*I* call it very serious, grandfather. Here I am, proud and poor and weak. I must live, and thee must tell me how to do it." (She said "thee" and "thy" when she talked with him.) The old man looked her over as if she were a new picture, and taking off his glasses he sat wiping them as he talked:

"Women do many more things now than they did when I was young. They are Artists, Authors, Telegraphers, Clerks, Bookkeepers, Shop-women, Teachers, Editors, Doctors, and not a few even preach and lecture. Thee surely ought to find a niche somewhere."

"It seems so, but I see no empty niches, I seem to be just one woman too many."

"I am thrice thy years, my child, and in my long experience I have found that women like thee are not fitted for the rough and rude ways of this rough-and-tumble world. They need a sort of John the Baptist to prepare the way for them—every Eve needs an Adam—and thee, Irene, with all thy talents and accomplishments, can do but a mite alone, because thee must use all thy delicate strength in preparing the way. I know, my child, hearts and heads are queer things, and the grooves we find ourselves running in, don't go just the way we wish, always."

"Oh I see, grandfather," she broke in, despairingly, "thee's like all my other friends. Thee can talk and talk, and it all culminates in matrimony at last;—why is there *no* haven of rest and peace, only to rush into some man's arms? Is broadcloth a sovereign balm for all womanly ills? Grandfather Day, I'll go to the poor-house first! Marriage was never meant to be prostituted to such ignoble ends, as to be a mere shield from sun and storm, and to furnish the wherewithal to buy raiment. Nothing less than the grand, entire passion of the heart can make *true* marriage, and I should be no true woman to marry when I have no heart in it. I should be a burglar, a thief, a forger, aye, and a perjurer."

How the blood dashed and thrilled in her delicate veins and tarried in her cheeks, and sent warmth and fire and indignation in her eyes!

Grandfather enjoyed seeing the old color come back, and hearing her voice fill out with the old-time womanly thunder. So he smiled instead of looking grave, as one would think he ought, and Irene arose to go.

"Don't go yet, Irene," said the old man deprecatingly, as she tied on her hat.

"Yes, I must. Thee can do me no good. People I find all human and weak. Grandfather, I am human and weak too; but I will *not* let my weakness sink me into crime. I'll *earn* freedom for my head and heart, and never say 'yea' with my lips, when 'my heart is far from it.'"

As she passed toward home, a wagon loaded with grain wheeled heavily by. It was a very common affair, but it gave her

AN IDEA.

So she sat down on the grass and looked it in the face. It was somewhat ugly, but she rose up with determination and walked on and went straight to the stable of "Blackthorne," and was soon on her way to see her cousin John Bradley, who lived a mile away.

John Bradley was senior proprietor of a large grain-buying firm. He was a christian, a gentleman, and a radical—else Irene Banks would never have knocked at his office door, went in, and standing up before him, said:

"Cousin John, I want employment. I know of but one thing I can do as well as a man, and that I *can* do. Make me your grain-buying agent for the ensuing year."

John Bradley motioned her to a chair, ran his pen over his ear, and looked thunderstruck. Gradually he began to see through the mist, and gave audible proof that he had a tongue.

"Can you do it, Irene?" he asked, as if he had doubts about it.

"I've 'Blackthorne,' a tongue, eyes, ears and fingers. Do I need to wear whiskers and spurs?"

Cousin John laughed.

"No, nor pantaloons. Be your own sweet self as you always are, and I wouldn't wonder if a woman like you, and brave like you, will bring to our house all the wheat in the county."

And so Irene Banks was duly authorized to buy grain for the great house of Bradley & Co.

To say that she felt that the work would glorify her, would do her injustice. It was simply the best she could do, for she could care for her health, do the work well, and be paid for it, the same as men had been compensated.

It was very *unique* employment for a woman, to say the least. And unwomanly and "masculine minded" as it seemed to people, they gradually found themselves admitting they could see no harm in it. Men who were brought in contact with her in her business capacity, invariably felt that they had met with no common woman, she was so fine, so dignified, so womanly and so devoid of

silly, shallow notions; and in their admiration, could rarely find any good reason for refusing to sell their grain to Bradley & Co., when the buyer was Irene Banks.

The novelty of the venture wore off, and when she came to buying the autumn grains, men only spoke of her as "a splendid business-woman—a great pity she hadn't been a man," and other such sorrowful remarks. Only Grandfather Day was *glad* she was a woman and brave and strong enough to bend circumstances to her needs. Yet *he* was not satisfied.

The close of the season proved her success, and the satisfied look on her face, as she sat before the grate, looking at a bank cheque for five hundred dollars, indicated that self-dependence brought a decidedly pleasing reward.

Five hundred dollars was not much, it is true. But it had been won at no very great discomfort or detriment to her health or freedom, and it brought her independence by giving her room to develope her tastes and fancies.

One pleasant day in November—one of the few of seductive Indian summer haziness—John Bradley made her the bearer of money packages to one of his partners, who lived four or five miles distant. Blackthorne had had a fortnight's rest, and eager to relieve himself of his surplus vitality. But Irene was in a mood for dash and speed, and rode at a wild rate, only subduing Blackthorne to a respectable gait as she neared "The Chestnuts"—a fine old place a half mile beyond Lowton, and a mile from her place of destination. The owner of "The Chestnuts" had died the year previous, and the property was willed to a nephew—a certain Mr. Randolph Leeds who had been stationed for some years at Berlin as agent for a famous importation house in New York. Mrs. Simonds, the housekeeper, still remained in charge of the house at the request of the new owner. She was a distant relative of Irene's father, a lively chatty body, and Irene often reined her horse under the trees to chat with her, or get down and sit in the high cool rooms and refresh herself with some of the housekeeper's home-made beer, and listen to Mrs. Simond's conjectures concerning the future when Mr. Leeds should come to take personal charge of "The Chestnuts." But this time she was to content herself with looking at the place as she rode by, and in so doing, saw a strange gentleman leaning against a tree in the grounds, and demurely aiming an opera-glass at her.

It was not that she was particularly sensitive at being stared at, but a little nervousness produced at the probable arrival of Mr. Leeds, that she touched her horse and went off in a dashing gallop.

She reached her destination safely, transacted her business, and accepted an invitation to dine. The table talk was mostly concerning the arrival of Mr. Leeds and what Mrs. Simonds had told of the odd and foreign ways of the new master, so that when Irene mounted her horse for home, she allowed him to pace leisurely along, while she gave herself up to a musing, womanly mood, which was most piteously brought to an end, and happened in no uncommon way. Blackthorne must have been musing too, else he would not have jumped aside so quickly at a snapping dog's barking, threw his mistress from her seat, and the dog's continual worriment only increased the speed of Blackthorne, so that Irene only knew she was at the mercy of a frightened ungoverned horse and with no space to help herself.

Pen Illustrations of the Drafts.

NEWPORT BUGGY.

Illustrated on Plate I.

THIS design is the first from our friends, Messrs. Brewster & Co., of Broome street, under the arrangement announced in the May number. We need say very little in praise of the design, as "it will speak for itself." The mouldings in this instance are raised, not painted. Wheels 3 feet 10 inches and 4 feet; hubs $3\frac{3}{4}$ inches in diameter; spokes $\frac{7}{8}$ inch; rims 1 inch; and the tires, homogeneous steel, $\frac{1}{8}$ by $\frac{3}{4}$ inch.

WAGONETTE.

Illustrated on Plate I.

FOR this design we are indebted to Messrs. Brewster & Baldwin, 786 Broadway. This firm are now building a carriage after this draft for one of the partners, Brown Brothers, bankers, in Wall street. As will be observed, this carriage is both phaeton and sociable, in combination, calculated so as to turn around in a narrow space. Passengers, by mounting from the rear are less likely to receive injury than when getting in at the side, and when in, with seats arranged as these are, they are able to converse face to face—a great desideratum in pleasure travelling. This carriage, when completed, will be both light and easy riding.

FALLING-TOP BAROUCHE.

Illustrated on Plate II.

THIS design has been drawn from a carriage of actual build, standing in the repository of our friend, James B. Cone, Esq., 684 Broadway. The color of the body is a maroon, the mouldings red; the carriage part red, with a broad, black stripe. The wheels 3 feet 4 inches, and 4 feet; hubs $4\frac{1}{2}$; spokes $1\frac{1}{4}$ inches; rims $1\frac{1}{4}$. We think this is one of the prettiest things of the kind we have seen.

DROP-FRONT EXTRA-SEATED COAL-BOX BUGGY.

Illustrated on Plate III.

MESSRS. GEORGE WOEBER AND BROTHER, of Davenport, Iowa, are the contributors of this design, which, as a specimen, is creditable to the mechanical abilities of our western friends. When an extra seat for children—as in this case—is added, the bracket is required to be a little longer than in the ordinary buggy. All drop-fronts of this kind are naturally weak, and this weakness is still further increased by the addition of the children's seat. To remedy this, the framing of the pillar should be done as recommended in describing a similar buggy in volume nine, at page 72, and a good strong rocker-plate, shaped so as to cover the short as well as the pillar and long

bottom-sides, all well secured by screws and white-lead—this last spread between the wood and iron. It is surprising how much strength is supplied by the sticking qualities of the lead, when it becomes hardened. The arm rester, although very convenient for the passenger, is "a fixture" seldom applied to New York city made buggies.

NEW YORK ROAD BUGGY.

Illustrated on Plate IV.

In designing this buggy, our artist has made use of the latest French fashion, and set his seat upon a narrow foundation so as to make it look light; not a bad idea, we think. The front pillar—a straight one—should project beyond the side panel about three-eighths of an inch, so as to relieve the side, which otherwise would look monotonous. Wheels 3 feet 10 inches, and 4 feet 1 inch in height; hub 3¼ inches in diameter, and 6 inches in length; spokes ¾ inch wide; rims ⅞ inch, with a tire ⅛ x ¾ inch, either Farist & Co.'s homogeneous, or Hussey, Wells & Co's steel tire. These dimensions are the lightest made, probably too light for practical purposes in some locations.

NEW YORK PIANO-BOX BUGGY.

Illustrated on Plate IV.

This design, simple and plain, with rounded corners, is an improvement upon the old square-bodied buggy, and is very much in favor with persons of fixed and staid habits. Something of the kind has been popular for a number of years, and very likely will continue so for many more. For this reason we recommend it to those persons who have comparatively little use for a light buggy, and consequently will probably have it many years in their possession. No doubt a buggy of this kind ten years hence will be more fashionable than any other now in vogue. Wheels 4 feet and 4 feet 2 inches; hubs 4 x 6½ inches; spokes 1 inch, rims ⅞ x 1⅛, and tire 3-16 x ⅞. Homogeneous steel. No very light wheel should be tired with any other metal.

Sparks from the Anvil.

NEW FORE-CARRIAGE.

In the design accompanying this article the reader is shown a new mode of constructing a fore-carriage for no-perch vehicles, received directly from Paris. This fore-carriage is not quite as simple as the one we gave on page 181, volume eight, but is more efficient for heavy work, being much less complicated than many now in use among us.

Figure 1 represents the under section of our fore-carriage, and figure 2 the under side of the upper portion.

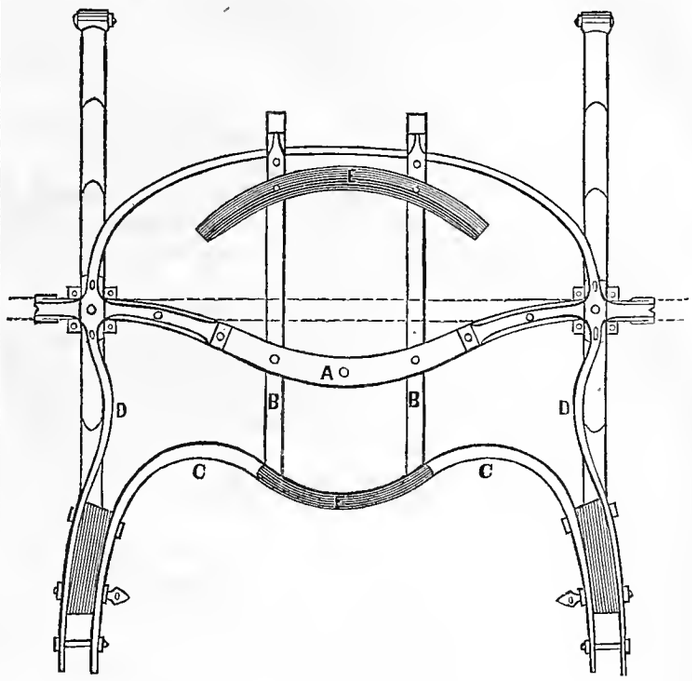


Fig. 1.

At A, in figure 1, is shown the bed-piece; at B the furchells or hounds; at C an auxiliary bed-piece or horse-bar, answering the purpose of a bed for the front circle of the fifth-wheel to rest upon; D an iron stay extending around the three sides of the diagram, and E the hind bed and plate for the back part of the fifth-wheel.

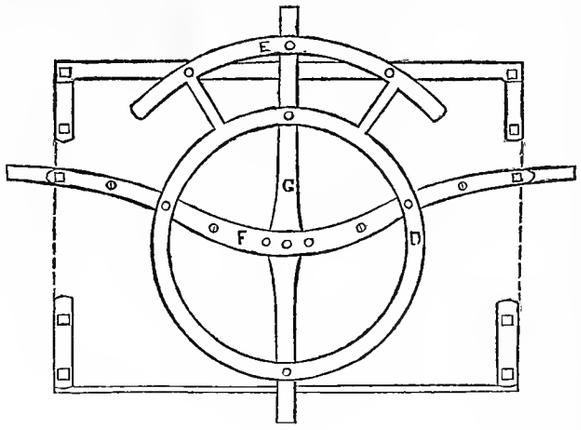


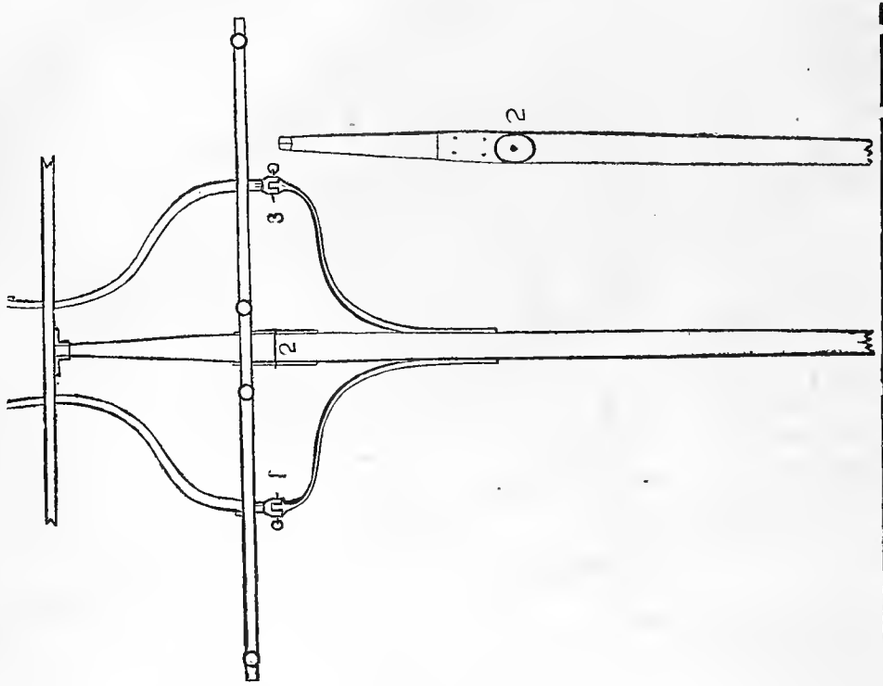
Fig. 2.

In figure 2, D is the fifth-wheel plate with an extension at E, rendered necessary in consequence of its small circle; C a strengthening furchell, placed *over* the fifth-wheel; and F the horse-bar. The dotted lines in this diagram point out the outside lines of the hung-up body, and connect with the two hanging-off irons by which it is secured to the fore-carriage.

STIFF-POLE, MADE TO DROP.

There is one very serious objection to "stiff-poles," as used in the country. In going down steep hills, where "barricades" occur in the roads, intended to prevent injury from rains, by turning off the water, a stiff-pole is very apt to fly up and hit the noses of the horses, often causing them to become unmanageable. In order to ob-

viate this difficulty, a drop-pole may be arranged, as in our diagram, and still answer all the purposes of a stiff one.



A STIFF-DROP-POLE.

To do this the pole should be cut—as at numeral 2—and formed something like a knuckle-joint, by putting a plate on each side and running a pin through the plates and the end of the pole. On a straight line with this pin there must be fixed two knuckles, made to come out under the furchell heads, with pins made so as to be drawn out at will—like those shown at 1 and 3—with side stays to brace the pole. By this contrivance a very secure job may be obtained, novel in design and efficient in usefulness. This we give for the special benefit of our numerous friends, without restricting them in the use, by a patent.

DRAW-FILING.

IN the finishing of the bright-work of tools and machinery two methods are employed:—polishing and draw-filing. The former method was at one time very prevalent, but of late years, especially upon heavy machinery, has been discarded, and a finish by the latter method adopted. To the uninitiated and ignorant the glare produced by polishing is paramount as a finish, but the educated mechanic views it with as much disdain as the enlightened mind regards the sham baubles that please the eye of an aborigine.

Polishing, as compared with the process of draw-filing, is a cheap method of finishing-up tools and machinery, and as a general thing, it is only the cheaper class of machine-work that is thus finished, and a piece of mechanism which is glistening from the application of polishing-wheels is open to suspicion as work of inferior merit.

Some labor as well as skill is required to produce a well draw-filed surface, while almost any cheap labor will suffice to operate a polishing apparatus. Patience in the former method rewards us with an exterior which is soon learned to be appreciated, and the mechanic who produced it will look upon his work with evident satisfaction. On observing a mechanic at work, and seeing him place his file transversely across the piece of metal upon which he is operating and then grasp it at each end and move it over the surface to be finished, the operation seems very simple and one which any one can perform; but let the tyro try to do it, and he will find that the finish which he produces is quite different from what he attempts to accomplish. Instead of the clean, smooth dead surface, containing thousands of minute parallel lines formed by the action of the file-teeth, he will find that his finished surface is full of crossed lines, and marred at frequent intervals by little ragged scratches which he can scarcely account for. To avoid the crossing of these minute lines, practice to carry the hands over the work in the same parallel lines is requisite, and to avoid scratches requires a delicacy of touch and feeling not so easily acquired, but which instantly tells the mechanic when any foreign matter or filings remain interposed between the file and the work, and which if not removed produce injury that will take some time to eradicate.

To the mechanical eye there is no finer finish than that of draw-filing. Small tools and machinery, like sewing machines and jeweller's tools, it may be advisable to polish, but for larger work, such as lathes and engines, the file finish is far preferable.—*Amer. Artisan.*

Paint Room.

LAKES, AND HOW TO USE THEM.

THE lakes, which are generally of a deep red color, are either made from the madder plant, which is cultivated extensively in France and Holland, or of aluminous earth and cochineal, the last being derived from an insect produced in Mexico, of which we shall speak in a future number. There are other shades under the name of lakes; but it is not our purpose here to treat of colors, which in beauty are of the richest kind, but rather how to employ them in coach-painting to the best advantage.

Since lakes alone possess but little body, the common workman finds it a difficult matter to use them to much advantage. In mixing, some are so imprudent as to use turpentine, raw oil, and japan, which ought never to be done, as the color is very delicate, and the use of japan destroys its brilliancy and makes it too "sticky" for effective spreading on a carriage body, or indeed anywhere else. The best way to proceed is to pulverize the lake very fine, mixing it with the lightest and purest boiled linseed-oil to be found, until it is thinned enough to grind, adding thereto sufficient sugar-of-lead to make it dry well in a day's time. To do this will require a little practice and some judgment. An old painter recommends that when the "color" is ready, it be tried by spreading it on some painted surface, where, should it still retain a gloss after ten minutes' time, it needs a little turpentine to thin

it; but should it settle down into a metallic-looking shade, it is then fit for use.

Lakes are in their nature so thin and volatile that some other paint must be resorted to, to furnish a groundwork for them. Some use a "ground" of dead-black, others some brown color. This last is said to injure the richness of the tint, unless it is of a shade to nearly match the lake, and five or six coats be successively applied. On a black ground, three coats alone will answer and show well. A correspondent on this subject says, "There is a wide difference in opinions as to what is the best groundwork for lake," but that doubtless depends much upon circumstances, whether a light or dark shade is required, and upon the good or bad quality of the material used. We are told, "If you have a poor lake, it is well to help it a little, and lay a dark brown for the ground; but if you have a superior article, with a good body in it, then best deep-black is preferable to all others, unless you wish for a very light shade, and then, of course, you can make your groundwork to match." Some have even recommended that lake be spread upon pure prussian-blue, as this imparts to it a rich tint, especially when violet lake is wanted.

Brushes made of bristles are unsuited to spreading lakes—the fitch-hair, bound in tin, with cedar handles, being much better. These should be about two inches wide, costing $1 per inch. A very good quality of lake can be purchased for $3.50 per pound, the best costing some $7. In our next, we shall give our readers an article from Professor H. Dussacree, a French chemist, on "Carmine and Lakes," which will be read with interest in connection with this chapter.

NEW METHOD OF MAKING WHITE-LEAD.

Various processes have been resorted to in order to produce white-lead in less time than is required by the old Dutch process still followed in the manufacture of the best article. Most of them, however, have ended in comparative failure. The pigment which is produced by precipitation has in general a crystalline character, which seriously interferes with its covering properties, and thus deteriorates its value. A process has recently been devised by M. A. Sisard, a French chemist, which is perhaps superior to most of the new modes of manufacturing white-lead. In the first place, metallic lead is granulated. It is afterwards placed in a barrel (which must be made of beech or hornbeam, not oak), with one-fourth its weight of pure water. The barrel is then placed on an axis, so that it can be made to rotate at about thirty or forty turns a minute, and arrangements are made so that a current of air can be forced through at the same time. After rotating for about two hours, almost all the lead will be found oxidized; and now a current of carbonic acid is substituted for the air, and the rotation continued for four or five hours longer. After this time nearly all the lead will be found converted into the hydrated carbonate, the true white-lead, which can be separated by decantation from any of the metal unacted on, and washed and dried. The product so made, we are inclined to believe, will be as good as that produced by the old process, in a much shorter period of time. This may have a tendency to lessen the price, which, for some years, has seem to us exorbitant. We see no reason why the white-lead manufacturers should not be rich.

Trimming Room.

TROUBLE WITH BOWS IN CARRIAGE-TOPS.

Mr. Editor: I see you invite inventors to contrive some plan to prevent leather from shrinking between the bows of a carriage-top. I don't know but this is asking a little too much, since it is the nature of leather—as well as almost everything else—to begin to shrink as soon as it begins to get old, and the vitality leaves it. Much, of course, depends on the quality of the leather, but this is beyond the trimmer's reach to decide. Much also depends on the treatment a top gets after it leaves the shop. Something might be said on this point, but this also is a matter beyond the reach of a trimmer.

A great deal depends on the way in which the top is drawn on, which should be well stuffed out. I believe much also might be done by wetting and shrinking the leather before it is stretched on. I would like to have the opinion of our big brothers in New York city on this subject. I have been in the habit of sponging leather, especially the curtains and dashes, but, of course, if the leather is wet, the irons should be well primed to prevent rust.

I see that some party has invented a back-joint to prevent tops from drawing up between the back-bows. This may answer very well; but I think if the back-bow were sufficiently stiffened it would answer every purpose. It is quite evident that this drawing up is caused by the springing of the back-bow from the stays, which brings it down in the center and out at the sides, slackening the top. The natural tension given to the material, to make it smooth and straight, then contracts and disfigures the top. If a piece of half-round iron was laid on the edge of the bow, up the sides and across the center, it would prove a great help to it; or if a piece of iron were well screwed on the whole length of the bow; this would strengthen it, make it not much heavier, be but little trouble, and less liable to get out of order. It is evident, that if the back-bow was kept perfectly rigid and stiff, that any tightening of the back-stays would also tighten the material in front of it, by the action of the joints.

T. Crownover.

PATENT AND ENAMELED LEATHERS.

Our advertising columns give the card of our friends, Messrs. N. F. Blanchard and Bro., of Newark, N. J., who have gained an enviable reputation by manufacturing the leather known as the Buffalo brand. This house occupy extensive premises, and have every facility for preparing, at very short notice, every shade of fancy colored leather the trade requires. We have had a long experience in the use of material prepared by this firm, and have, therefore, no hesitancy in recommending it to the trade as being equal to the best in the market, both in color and finish.

FASHIONABLE MATERIALS FOR LININGS.

We noticed in one of the repositories on Broadway, the other day, a coupé lined with satin of the color known as the Bismarck, that looked extremely well and rich. This color, so very fashionable among the ladies at this time, will doubtless prove a taking color for lining the

more expensive class of carriages, the coming season, in this city.

The extension-top Phaeton, which we give on Plate II. with this number, has a blue cloth lining, with patent leather weltings in place of the old seaming cord now seldom—we might say never—seen in city-made work.

Some of the bretts are now trimmed with goat-skins—of brown colors, chiefly—made to order by the patent-leather manufacturers. When this is not used, cotelines, brown or blue, prevail. There is very little attempt at ornamentation beyond that supplied in the material of which the fabric is composed, in any heavy carriage; and the fancy gew-gaw ornamentation recommended with so much flourish, is seldom visible in New York city-made light work.

Editor's Work-bench.

SPECIAL NOTICE TO OUR FRIENDS.

UNDER this heading, in our May number, we announced that we had made arrangements with some of the leading coach-makers in New York city, who would each month contribute one or more original designs to our fashion plates, from the pencils of their own draftsmen, nearly all of which keep at least one constantly employed. With this assistance, and such other as will be found in our own office, we hope to maintain our well-earned reputation for making the best periodical of the kind the world has ever been favored with, and continue to receive the steady patronage of those for whom we have long catered.

As an earnest of previous promise, we this month publish three designs from that number of carriage-builders in New York, in addition to those emanating from our own office and elsewhere—six in all. We do not intend that there shall be less than five in any one month, and should our friends rally, as we have good reason to believe they will, we shall still further increase the number, and make THE NEW YORK COACH-MAKER'S MAGAZINE more efficient and useful than it has ever been in the past ten years. We might save full one half the costs of production, did we print our designs on colored paper, instead of printed tints; but we are certain such a resort would not satisfy the wishes of our long-time friends, nor meet with favor from those who love to have in their hands a handsome volume, at the end of the year. For these and other reasons we might give, we shall continue to send out the new volume in the superior order we have heretofore done, and at the old price. Those who feel that they cannot afford to pay the price charged for a single subscription, can by making up a club among their friends and acquaintances, secure a copy at a cheap rate, the terms for which will be found on the first page of our cover.

As we proposed in our last, we especially invite the proprietors of shops, and others, to exert themselves in making up clubs; and as an inducement to do this, we offer as a premium to all who succeed in sending us three or more names, with the amounts subscribed, a copy of any chart they may select from our published list. This will enable them to get a copy of volume ten, at a very low figure, and furnish them besides with a chart for hanging up in the office, worth at least fifty dollars in the way of obtaining custom. Strange as it may appear, we have some acquaintances who do more in getting patronage by this method than by any other. There is nothing about the manufactory—unless it be a finished carriage—which sooner attracts the attention of a customer, than one of these charts, and his excited curiosity very frequently ends in ordering a vehicle. Try the experiment, and see if this is not so.

When our friends send us remittances, we hope they will get a post-office order, where it can be done, or a draft on New York to our order, as being safer than any other; but where these cannot be obtained, send the money in a registered letter. Money sent by express always has an additional charge attached, even where the sender supposes he has prepaid the full amount; and individual checks on country banks cost something for collection. It is a wrong idea some entertain, that because a check on a New York bank, drawn in the country, costs nothing for collection, that our banks will collect on a country "institution" without charge. We need not go into an explanation why they do it, but it is so, of which fact we hope our friends will make a note, and act accordingly.

STEAM CARRIAGES ON COMMON ROADS.

MANY persons in the present day are accustomed to look upon the attempts to use steam on common roads as having grown out of the success of it on the railway. Such is not the case. Long before steam came into play on railroads, efforts were undertaken to make steam carriages capable of running on common roads; and although with little success, have never been abandoned. Even Watt tried his hand in this business, and failed.

There have been various causes for this lack of success, one of which is the great weight of the steam carriages heretofore constructed, causing the wheels to slip on some, and to sink into the soil on others. All the means hitherto resorted to, to obviate the difficulty, have proved abortive. Two of these we shall notice. The first was Boydel's endless railway, consisting of a common road engine, with ponderous wheels attached, round the tires of which were loosely fastened short length of rails secured to flat sleepers. As the wheels turned around, these pieces of rails came down in succession flat on the ground, in front, forming a sort of endless railway for them to

travel over. The machine could move only at a slow rate, and yet this complicated and expensive mechanism soon gave out and could no longer be used.

The second was Bray's. His carriage had wheels applied, the tires of which were entirely smooth, that is without any projections; but this kind of wheel not having sufficient "bite" to take hold of the road, even when empty, could not be expected to work when loaded. To remedy this, the wheels were afterwards ingeniously provided with spokes protruding from the tires, which were so arranged, that like the claws of the cat, they were withdrawn except when in contact with the road. These claws, instead of being occasionally used to draw the carriage out of a hole in a bad road or up a steep hill, were so frequently in action, that the mechanism was soon destroyed beyond renewal. Had these projections proved successful, they would undoubtedly soon have torn the roads so badly as to spoil them. The only kind of wheels which have stood the test of practical work, have flat teeth riveted to the tires, which yet are likewise destructive to good roads. Until wheels can be provided so as to be effective and still not damage the public highway, there is very little hope of their coming into general use.

The nearest approach to success in steam carriages on common roads, has recently been achieved by an Englishman, named Thompson. To his wheels he applies vulcanized india-rubber tires or bands, about twelve inches wide and five in thickness. This soft and elastic substance carries what he calls "a road steamer" along without injury, even over rough surfaces and sharp obstructions, not even leaving a mark on the india-rubber bands afterwards. The soft and elastic tires resemble (it is said) in some degree the feet of an elephant, not even crushing the stones that may lay in the track of the ponderous machine. This elasticity in the tires, lessens the power required to propel the vehicle, below that needed for hard and rigid ones. This, at first thought, would seem incredible, and yet experiment has established its truth. We are told in an English periodical that Mr. Thompson's "road steamer" was tried across a soft grass field, without even leaving a track, but when it went over a track in a part of the field, newly covered with loose earth, one or two feet deep, back and forth, "the surprise of those present was considerable." The weight of this "steamer" is between four and five tons, and yet the wheels compressed the earth so little that a walking stick could easily be pushed down in their track with very little exertion. "After various evolutions," says our authority, "showing the ability of the road steamer to run about where there were no roads, it passed out into the street, and taking a large omnibus full of passengers, in tow, it proceeded up the Bonnington road to Messrs. Gibson & Walker's mills, where it took a wagon, weighing with its load of flour ten tons, up a steep lane full of holes and ruts, and rising with a gradient of one in twenty. It was obvious that the road steamer was able to do a great deal more than it had to do in this trial. The bite on the road is something marvelous, and the easy way in which it floated along on its soft and elastic tires was very curious, when riding * * the feeling is like what would be experienced in driving over a smooth grass lawn. There is absolutely no jarring at all." This probably is the greatest progress yet made towards accomplishing success in the application of steam to travel, on common roads, and therefore not unworthy of notice in our pages.

ANOTHER SOUTHERN PICTURE.

A Southern correspondent, who was familiar with affairs before the rebellion, says that "formerly the Carolinians rode in the best made northern buggies, barouches and coaches, and set their tables with china-ware, and that many of the people are still there, but the nice horses and vehicles are not." Having asked an intelligent old colored man, who formerly belonged to one of the wealthiest families in the State, what had become of those good "turn-outs," he was informed that the horses were all pressed into the service of the rebel army, and that all the carriages that would possibly answer were used for ambulances, and the remainder for the past six years have been used so much to carry the families out of danger, that they have fallen to pieces. As to the china-ware, he says they cannot afford the large dinners they used to, and have no use for the nice dishes, which remain month after month in the locked-up cupboard.

Occasionally, through open doors or windows, one will catch a glimpse of costly furniture; but this is in strange keeping with unpainted houses and dilapidated fences. One cannot help feeling sorrowful on seeing a woman come out of a house in which the chairs are worth ten dollars apiece, and sit down on the bottom of a cart to which is attached an old mule, that is driven with rope lines, and requires a strong arm and a stout pole to belabor him into a trot. But such scenes are visible. Even the mayor of the place, although he lives in a large house, rides in an old rickety one-horse wagon, and drives a poor horse, with rope lines. Such is the common practice with the people, no part of their harness being thought fit for use by a northern farmer. The only exceptions to this rule are those used by the doctors, who are doing a thriving business, and can afford to ride in sulkies lately imported, and use instead of ropes real leather reins.

The above may be an overdrawn picture; we hope it is; but, it is at least consistent with many other stories we get from the States which lately rebelled against our Federal government, and is, at least, plausible.

TO THE TRADE—CHARTS.

We have several times called the attention of our readers to the charts we get up to order for the trade. Of this means many have availed themselves, so that we have been very busy the past two months. No doubt those we have supplied will find themselves well repaid for all they have invested in this way. There are some, however, who have thus far done nothing more than talk about having them printed; these should hurry up before the season for business passes away. That we may assist you in this business on the cheapest terms—having on hand about five hundred different designs, already engraved, from which to make a selection—we offer to get up a chart 22 by 28 inches; fifty copies for $30, one hundred copies for $35, one hundred and fifty copies for $48, or two hundred copies for $50. The same printed on pasteboard, saving the cost of framing, will cost $20 per hundred extra.

A much smaller chart—19 by 24 inches—containing sixteen designs as well as a business card (which, by the way, is the most popular one) will be supplied, one hundred copies for $25, or two hundred for $35. These on pasteboard will likewise cost $20 per hundred extra, as we must cut to size the large sheet, in which only it can be bought in the market, at a great waste of material.

A very convenient and popular mode of advertising now is by leaflets, of about twelve pages, one of which when folded is devoted to a title-page, the others to carriages in variety, eleven in number. When folded, the strip looks like an uncut pamphlet, and may be conveniently sent by mail to correspondents or customers. For one hundred copies in this form we charge $15; for two hundred, $20. Now is the time to send on your orders, and secure for yourselves a good business year, if possible. Orders not accompanied with the money will have express costs for returning it to this office, added to the above items.

When a customer furnishes the drawing for a carriage of his own designing, to go with those selected from our stock, we make an extra charge of about seven dollars each, for putting it on the block and engraving, the same to be the property of the person who orders it done. In our advertising pages are three different kinds of charts—none alike. These we sell singly at one dollar each, or twelve for nine dollars. If one dozen copies of number five are ordered, and the business card printed in, the price will be two dollars more—eleven dollars in all—which two dollars extra we have to pay for the printing.

REVENUE TAX ON CARRIAGES.

The modified revenue law, relieving manufacturers from its more odious exactions, makes it now obligatory on the manufacturer of carriages to pay a tax of two-fifths of one per cent. on all carriages, sold on the premises. Should such carriages be taken elsewhere, and sold by a dealer, he likewise (on the same carriages) must pay another tax of one-fifth of one per cent. All taxes on repairs are now removed; but those who keep vehicles—that is, our customers—are still taxed, every year, at the same rate of valuation as formerly.

It is hard to make our law-makers believe that pleasure vehicles are not things luxurious, and consequently they hesitate in repealing acts which give them so large a revenue; but we think the time will soon come—probably in another year—when this tax will be done away with entirely. All laws of this kind are odious to the American mind, and *must* cease at an early day, even though the things taxed are counted as luxuries.

REVIEW OF TRADE.

To review a business in which very little is being done, is not a very pleasant thing, and yet such is the task we are called upon to undertake in this article. At no time within our memory have we seen carriage-building so extremely dull at this season of the year as during the month of April, at the end of which this is penned. We have been told by a member of one of the largest firms in this city, which last year sold some fifty thousand dollars worth of carriages during the third week in April, that, in the corresponding week of this year, they did not sell a single vehicle! There must be some special cause for this change in affairs, which it may be interesting to examine.

In the first place, for three years or more, business of nearly every description has been overdone, and among these is carriage-building and carriage-selling. If the mechanic has not become rich, yet his customers have bought largely. Money has been so plentiful since Government went into the banking business, and spread its "greenbacks" broadcast over the land, that "all the world and the rest of mankind" have literally run mad in search of pleasure and enjoyment, and as one of the surest methods of securing their object, emptied the carriage-maker's warehouse about as fast as he could replenish it, reckless of consequences, until now they find they need bread, and in many cases have to dispose of these "turn-outs" to obtain the wherewith to purchase that which monopoly is doleing out to the public at inflated prices.

And then, again, this is our year for the election of another President, to take the place of the present incumbent; and, strange as it may seem to "outsiders," at such times, almost invariably, a check is put upon trade within the bounds of this Republic. Personal interest in other matters for the time being, are wholly neglected, until

the hurrah of party voice sounds the knell of victory on one or the other side.

The weather, too, this year has been unfavorable to carriage-making. We have had almost every alternate day a storm of rain or snow, which has kept the roads in an unsettled state and unfit for pleasure traveling. This of itself is sufficient to prevent the selling of new work. All these things combined have placed an impediment in the way of success, so far as the carriage-maker is concerned, which another month may change, but which we greatly fear will continue throughout the year. Should our fears be premature, and business improve, no one will be more pleased to record it than ourself hereafter.

Patent Journal.

AMERICAN INVENTIONS.

March 17. (75,688) Carriage-Perch Connection.—Darius A. Matthews (assignor to D. W. Baird), of Geneva, N. Y.: I claim the T-piece A, provided with screws and nuts, as described, and a fork or socket for the wooden perch C; and, in combination with the T-piece above claimed, the brace B, provided with an arm, K, and screw and nut, substantially as described and for the purposes set forth. Also, combining with the brace B the arms I I and ears or lugs G G, substantially as shown and described and for the purposes set forth; and, in combination with the T-piece A and brace B, the brace E, perforated for the bolt and screws, as described.

(75,698) Thill-Coupling.—George Pennoyer, of New York, N. Y.: I claim, *First*, The double solid cone, in combination with the clip, fig. 1. *Second*, The solid conic caps A A, in combination with the solid cones. *Third*, The screw-bolt, in the position and for the purposes described. *Fourth*, The capped joint in constructing a carriage-coupling, as and for the purposes described.

(75,711) Carriage-Thill.—James B. Tyson, of Philadelphia, Pa.: I claim a tapering strip, C, of gum-elastic, or its equivalent, secured at one end to the bar B, and extending between the end of the latter and the coupling-block, substantially as and for the purpose described.

(75,713) Tire-Setting Machine.—Robert B. Wheatley, of Grandview, Ind.: I claim the device of the screw-bolt *u*, passing through and rotating in the eye-bolt *y*, which, being firmly fastened to the crab, allows the wheel to be revolved in the water, with the crab for a support, during the process of cooling the tire, and so as to govern completely the dish of the wheel more readily than if the work were performed with the wheel and crab in the usual horizontal position, or if the wheel were left without any support whatever.

March 24. (75,746) Dash-Board for Carriage.—William Franklin and T. M. Smith, of East Randolph, N. Y.: We claim the grooved frame B, with its plates A A, and connecting-pieces H H, when constructed substantially as specified.

(75,781) Machine for Bending Tires.—Jacob Naylor, of Hedgesville, W. Va.: I claim a former, A, provided with flanges *b b* and adjustable stirrups for holding the bar B, all constructed, arranged and combined as described.

(75,803) Mode of Attaching Traces to Whiffle-trees.—Samuel Smith, of Plainview, Minn.: I claim the combination of the ferrule B with its projections *x x x x*, and the ring C with its enlargement *f*, all constructed and used substantially as set forth.

(75,812) Runner for Wheeled Vehicle.—Bjarne Thompson, of Chicago, Ill.: I claim, *First*, The hinged stirrups D and bolts *g*, in combination with a detachable runner, having in it a groove or recess fitted to the wheel, substantially as specified. *Second*, The guide C, to prevent the side slipping off the runner when operated by the direct action of the lever *i j*, substantially as specified.

(75,840) Apparatus for Working Wagon-Tongues.—Allen J. Beach, of Linden, Mich.: I claim the construction of an apparatus for the purpose described, combining the slotted bar C, bolt and hand-nut D, the standard transverse bar E, the upright rods F, the nuts G, the gauge-bar H, the lever I, the hand-nut K, the set-screws N, the bolt P, and hand-nut R, with the bench or truss A, or their equivalents, when arranged and operating substantially as and for the purposes described.

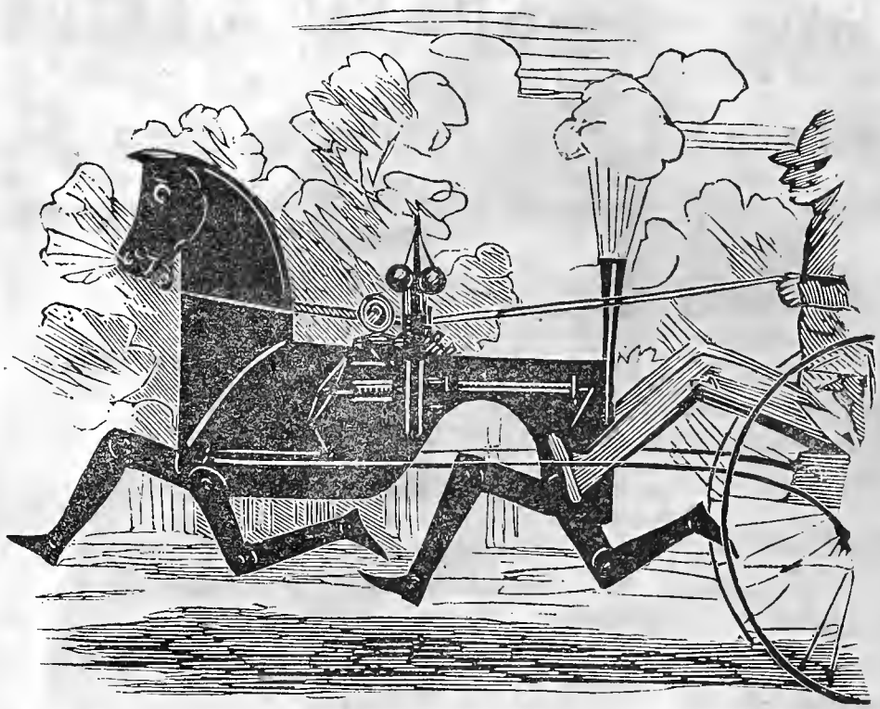
(75,841) Sliding Seat for Carriages.—Samuel N. Beecher (assignor to himself and Charles W. Miles), of Milford, Conn.: I claim the arrangement of the spring *d* upon one end of the double seat, in combination with the catch or pivot *a* upon the other end of the double seat, so as to operate to permit the folding of the seat as set forth.

(75,874) Steam Carriage.—Zadoc P. Drederick and Isaac Grass, of Newark, N. J.: We claim, *First*, The combination of the crank E, connecting-rods F, bell-crank levers G′ G′, and rods H H, the said parts being arranged to produce an alternately-stepping-motion, substantially as described. *Second*, The combination of the rods G′ G′ and H H with the rods L L and M M, and foot-pieces I I, substantially as described. *Third*, The combination of the rods H H and Q Q′, substantially as and for the purpose set forth. *Fourth*, The foot-piece I, pivoted to the rods H centrally, and at the heel to the rod M, when said rods are so actuated as to cause an oscillating motion of the foot, substantially as and for the purpose set forth. *Fifth*, The combination of the lever N, rods P and Q, with the rods G′ and H, substantially as and for the purpose set forth. *Sixth*, The arrangement of the circular support U to the machines, and the cords S and tiller T, substantially as set forth.

(75,893) Machine for Making Carriage-Axles.—Benjamin W. Foster (assignor to Franklin L. Sheldon and Charles L. Sheldon), of Auburn, N. Y.: I claim, *First*, The combination of the shaping-rollers, which form the journal and taper the bar of an axle, with the dies which form the collar by lengthwise pressure of the bar, substantially as described. *Second*, A pair of rolls, for acting simultaneously on opposite surfaces of a bar of metal, having dies, *a b c*, arranged in relation one to the other and to the rolls, substantially as herein set forth. *Third*, In combination with the die-rolls claimed in the above second clause, the cutting-edge *d*, as described. *Fourth*, In combination with the die-rolls claimed in the above second clause, a pair of rolls arranged perpendicularly thereto, and for joint action therewith, substantially as described. *Fifth*, In combination with a pair of die-rolls, the devices, herein described, for accommodating dies of greater or less thickness, substantially as set forth. *Sixth*, Mounting one set of rolls upon vertical shafts, which revolve in bearings upon sleeves on the other shaft, substantially as and for the purpose described. *Seventh*, In combination with die 2 and socket 4, or their equivalents, the pointed screw 13, as and for the purposes set forth. *Eighth*, The improved machine as a whole, constructed and operating substantially as set forth.

(75,908) Carriage and Sleigh-Top.—D. K. Hickok, of Morrisville, Vt.: I claim the circular flanged plate J, with its angular divisions M, clips L, and slide G, in combination with the several parts of a carriage and sleigh-top, constructed as described.

(75,916) Carriage-Bow Setter.—Henry C. Hoover, Green Castle, Pa.: I claim, *First*, The sliding-boards E E, as and for the purpose set forth. *Second*, The slotted holders *d d*, in combination with sliding-boards E E, substantially as described. *Third*, The block C C, in combination with boards E E, substantially in the manner specified. *Fourth*, The gauge-bars D D, substantially as set forth; and *Fifth*, The combination of sliding-blocks C C, boards E E, holders *d d*, and bars D D, all arranged as described.



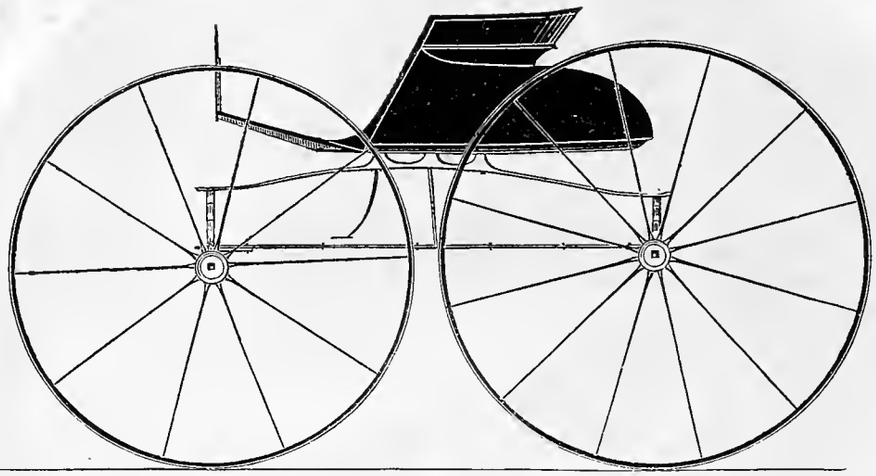
MR. EDITOR: *Hearing that all the horses are likely to be eaten, I have invented a steam horse, to which I have applied the steam-man principle, in hope of adverting the trouble business must suffer in consequence.*—ARCHIMEDES.

CURRENT PRICES FOR CARRIAGE MATERIALS.

CORRECTED MONTHLY, BY MESSRS. C. VAN HORN & CO.

NEW YORK, May 10, 1868.

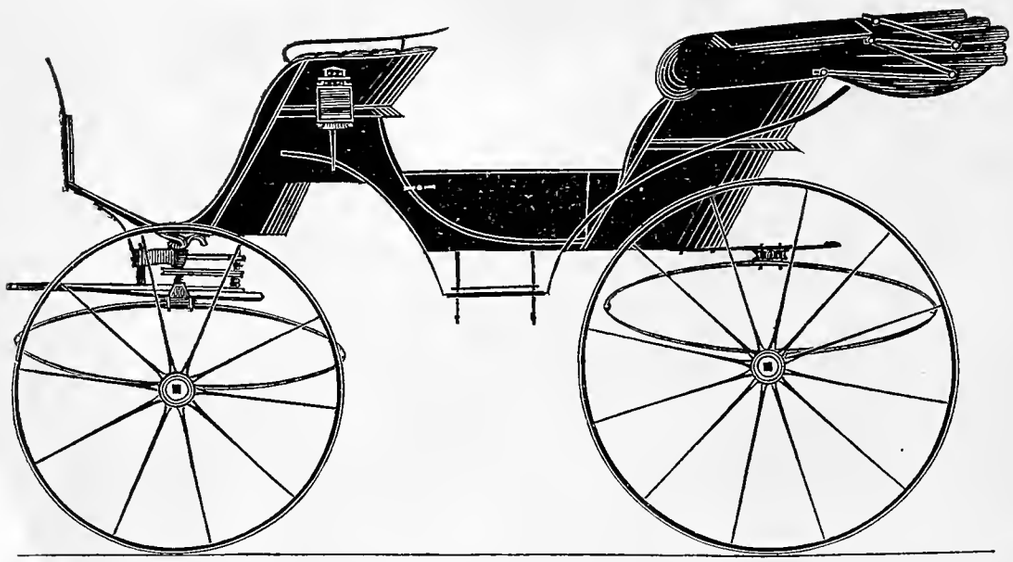
Apron hooks and rings, per gross, $1.25 *a* $1.75.
Axle-clips, according to length, per dozen, 50c. to 80c.
Axles, common (long stock), per lb, 7 1-2c.
Axles, plain taper, 1 in. and under, $5.50; 1⅛, $6.50; 1¼, $7.50; 1⅜, $9.50; 1½, $10.50.
Do. Swelled taper, 1 in. and under, $7.00; 1⅛, $7.50; 1¼, $8.75; 1⅜, $10.75; 1½, $13.00.
Do. Half pat., 1 in. $10; 1⅛, $11; 1¼, $13; 1⅜, $15.50; 1½, $18.50.
Do. do. Homogeneous steel, ⅝ in., $11.00; ¾, $11; ⅞, $12.00; long drafts, $2.50 extra.
☞ These are prices for first-class axles. Inferior class sold from $1 to $3 less.
Bands, plated rim, 3 in., $1.75; 3 in., $2, larger sizes proportionate.
Do. Mail patent, $3.00 *a* $5.00.
Do. galvanized, 3½ in. and under, $1; larger, $1 *a* $2.
Basket wood imitations, per foot, $1.25.
☞ When sent by express, $2 extra for a lining board to a panel of 12 ft.
Bent poles, each $1.00 to $1.50.
Do. rims, extra hickory, $2.75 to $3.50.
Do. seat rails, 50c. each, or $5.50 per doz.
Do. shafts, $6.50 to $9. per bundle of 6 pairs.
Bolts, Philadelphia, list. 30 off. Do. T, per 100, $3 *a* $3.50.
Bows, per set, light, $1.50; heavy, $2.00.
Buckles, per grs. ½ in., $1.25; ⅝, $1.50; ¾, $1.70; ⅞, $2 10; 1, $2.80.
Buckram, per yard, 20 *a* 25c. Burlap, per yard, 16 *a* 20c.
Buttons, japanned, per paper, 20c.; per large gross, $2.25.
Carriage-parts, buggy, carved, $4.50 *a* $6.
Carpets, Brussels, $1.75 *a* $2.25; velvet, $3 *a* $4.50; oil-cloth, 50*a*80c.
Castings, malleable iron, per lb, 16c.
Clip-kingbolts, each, 40c., or $4.50 per dozen.
Cloths, body, $3.50 *a* $5; lining, $2.50 *a* $3.50. (See *Enameled.*)
☞ A Union cloth, made expressly for carriages, and warranted not to fade, can be furnished for $2.50 per yard.
Cord, seaming, per lb, 45c.; netting, per yard, 8c.
Cotelines, per yard, $4 *a* $8.
Curtain frames, per dozen, $1.25 *a* $2.50. Do. rollers, each, $1.50.
Dashes, buggy, $1.75. Door-handles, stiff, $1 *a* $3; coach drop, per pair, $3 *a* $4. Drugget, felt, $2.
Enameled cloth, muslin, 5–4, 40c.; 6–4, 75c.
Enameled Drills, 48 in., 55c.; 5–4, 50c.
Do. Ducks, 50 in., 75c.; 5–4, 70c.; 6–4, 80c.
☞ No quotations for other enameled goods.
Felloe plates, wrought, per lb., all sizes, 20c.
Fifth-wheels, wrought, $1.50 *a* $2.00.
Fringes, festoon, per piece, $2; narrow, per yard, 18c.
☞ For a buggy top two pieces are required, and sometimes three.
Do. silk bullion, per yard, 50c. *a* $1.
Fringes, worsted bullion, 4 in. 28c. *a* 35c.
Do. worsted carpet, per yard, 8c. *a* 15c.
Frogs, 50c. *a* $1 per pair. Glue, per lb, 25c. *a* 30c.
Hair, picked, per lb, 50c.
Hubs, light, mortised, $1.20; unmortised, $1.—coach, mortised $2. Japan, per gal. $2.75.
Knobs, English, $1.40 *a* $1.50 per gross.
Laces, broad, silk, per yard, 90c. *a* $1.25; narrow, 10c. to 16c.
Do. broad, worsted, per yard, 40c. *a* 50c.
Lamps, coach, $18 *a* $30 per pair.
Lazy-backs, $9 per doz.
Leather, collar, dash, 28c.; split do., 14c. *a* 16c.; No. 1, top, 27c.; No. 2, enameled top, 25c.; enameled Trimming, 26c.; harness, per lb, 50c.; flap, per foot, 25c.
Moquet, 1½ yards wide, per yard, $8.50.
Moss, per bale, 10c. *a* 18c.
Mouldings, plated, per foot, ¼ in., 14c.; ⅜, 16c. *a* 20c.; ½, lead, door, per piece, 40c.
Nails, lining, silver, per paper, 7c.; ivory, per gross, 50c. Name-plates.
Oils, boiled, per gal., $1.50.
Paints. White lead, ext. $14.00, pure $15.00 per 100 lbs.; Eng. pat. bl'k, 40c.
Pole-crabs, silver, $5 *a* $12; tips, $1.25 *a* $1.50.
Pole-eyes, (S) No. 1, $2.25; No. 2, $2.40; No. 3, $2.65; No. 4, $4.50 per pr.
Sand paper, per ream, under Nos. 2½ and under, $5.00.
Screws, gimlet, manufacturer's 30 per cent. off printed lists.
Do. ivory headed, per dozen, 50c. per gross, $5.50.
Serims (for canvassing), 16c. *a* 22c.
Seats, buggy, pieced rails, $1.75; solid rails, $2.12.
Shaft-jacks (M. S. & S.'s), No. 1, $2.40; 2, $2.60; 3, $3.00.
Shaft-jacks, common, $1.10 *a* $1.35 per pair.
Do. tips, extra plated, per pair, 25c. *a* 50c.
Silk, curtain, per yard, $2 *a* $3.50.
Slat-irons, wrought, 4 bow, 75c. *a* 90c.; 5 bow, $1.00 per set.
Slides, ivory, white and black, per doz., $12; bone, per doz., $1.50 *a* $2.25; No. 18, $2.75 per doz.
Speaking tubes, each, $10. Spindles, seat, per 100, $1.50 *a* $2.50.
Spring-bars, carved, per pair, $1.75.
Springs, black, 16c.; bright, 18c.; English (tempered), 22c.; Swedes (tempered), 26c.; 1¼ in., 1c. per lb. extra.
If under 34 in., 2c. per lb. additional.
☞ Two springs for a buggy weigh about 28 lbs. If both 4 plate, 34 to 40 lbs.
Spokes (Best Elizabethport), buggy, ⅞, 1 and 1⅛ in. 9½c. each; 1⅛ and 1¼ in. 9c. each; 1½ in. 10c. each.
☞ For extra hickory the charges are 10c. *a* 12½c. each.
Steel, Farist Steel Co.'s Homogeneous Tire (net prices); 1 x 3–16, and 1 x 1-4, 20 cts.; 7-8 x 1-8 and 7-8 x 3-16, 23 cts.; 3-4 x 1-8, 25 cts.; 3-4 x 1-16, 28 cts.
Do. Littlejohn's compound tire, 3-16, 10½c.; 1-4, 10¼.; 3-4 x, 5-32 a 11 c; heavier sizes, 9¾c. currency.
☞ Under no circumstances will bundles be broken to furnish a single set—bundles weigh from 110 to 120 lbs. each.
Stump-joints, per dozen, $1.40 *a* $2. Tacks, 7c. and upwards.
Tassels, holder, per pair, $1 *a* $2; inside, per dozen, $5 *a* $12: acorn trigger, per dozen, $2.25.
Terry, per yard, worsted, $3.50; silk, $8.
Top-props, Thos. Pat, wrought, per set 80c.; capped complete, $1.50.
Do. common, per set, 40c. Do. close-plated nuts and rivets, 75*a*80c.
Thread, linen, No. 25, $1.75; 30, $1.85; 35, $1.80.
Do. stitching, No. 10, $1.00; 3, $1.20; 12, $1.35, gold.
Do. Marshall's Machine, 432, $2; 532, $2.25; 632, $2.60, gold.
Tufts, common flat, worsted, per gross, 20c.
Do. heavy black corded, worsted, per gross, $1.
Do. do. do. silk, per gross, $2.c. Do. ball, $1
Turpentine, pr gl., 70c. Twine, tufting, pr ball, 50c.; per lb, 85 *a* $1.



SPRING-BAR BUGGY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

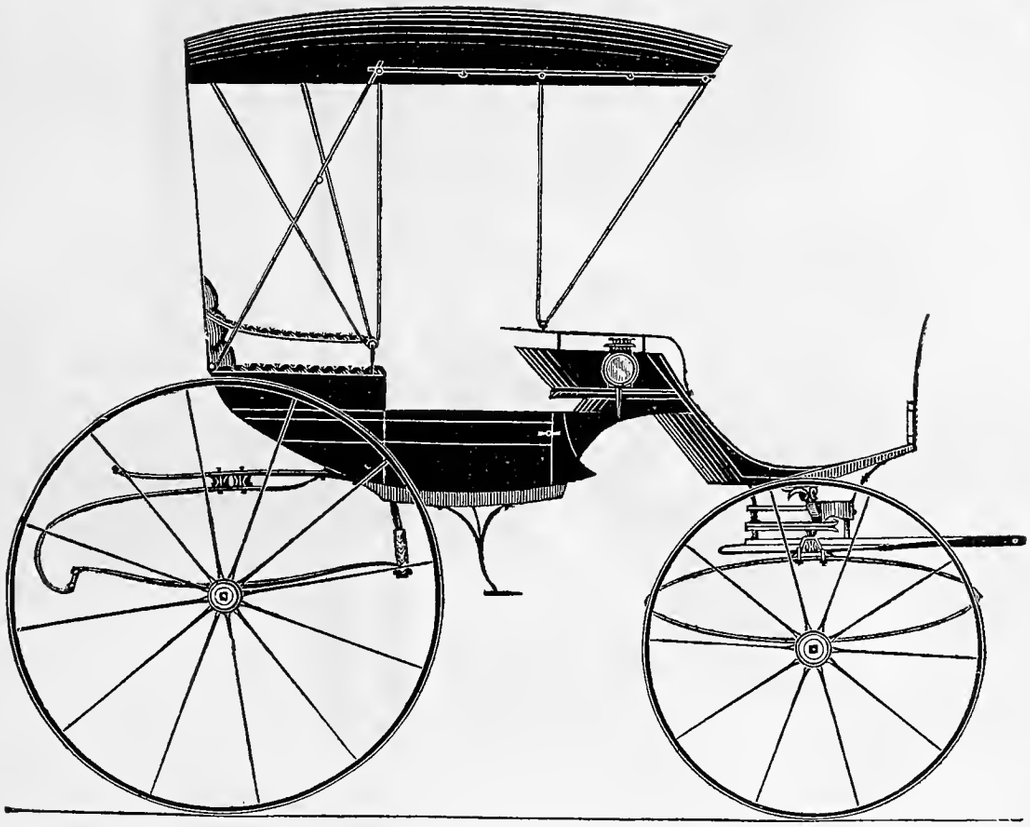
Explained on page 23.



PARK PHAETON.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

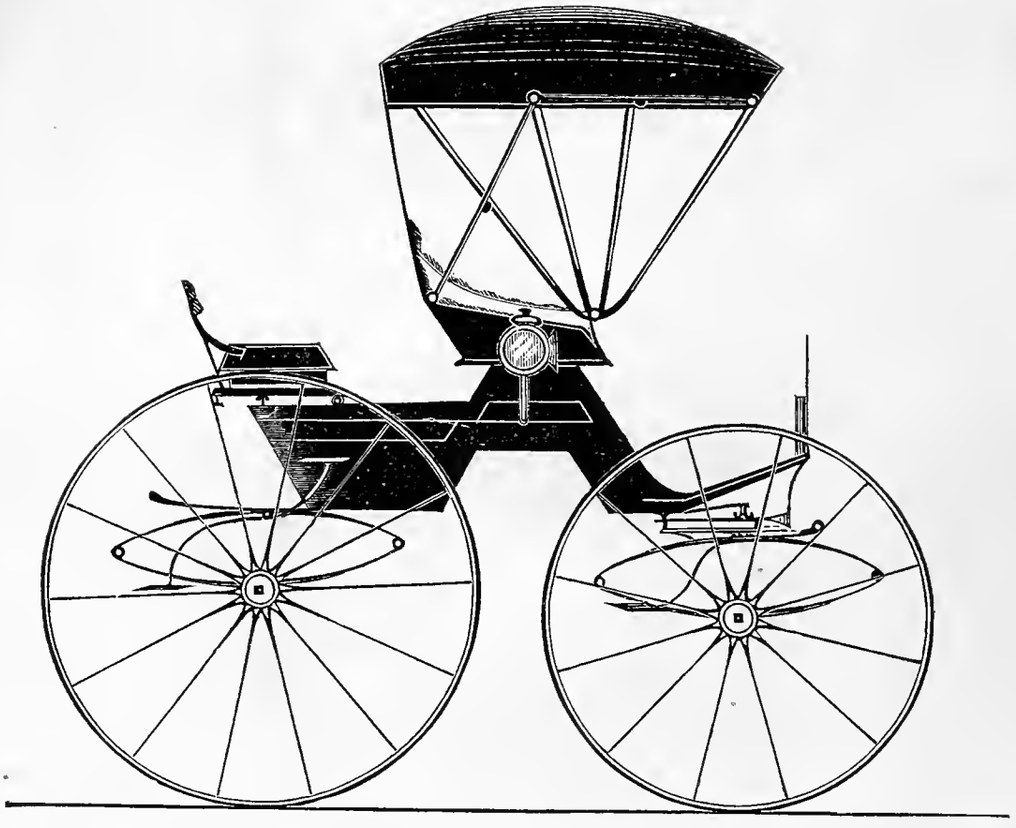
Explained on page 23.



EXTENSION-TOP BAROUCHE.—½ IN. SCALE.

Engraved expressly for the New York Coach-maker's Magazine.

Explained on page 23.



TURN-OVER SEAT PHAETON.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 23.

STANDING-TOP BUGGY.—½ IN. SCALE.

Engraved expressly for the New York Coach-maker's Magazine.

Explained on page 24.

DEVOTED TO THE LITERARY, SOCIAL, AND MECHANICAL INTERESTS OF THE CRAFT.

Vol. X. NEW YORK, JULY, 1868. No. 2.

Mechanical Literature.

ARTISANS' REPORT ON CARRIAGES IN THE PARIS EXHIBITION OF 1867.

(*Concluded from page* 4.)

The carriages exhibited in the Italian Court were excellent. The boat-shaped landau, by Casalini, of Rome, hung on elliptic springs, was a good specimen of workmanship, as also the landau hung on C and under springs, with the iron perch, which could not be surpassed by any carriage of the same description in the French department, the construction of its under-carriage being very well arranged. The body also was of the latest design, the outline of shape being easy and graceful; well painted, and trimmed in good taste. I had some doubts in my mind as to whether these carriages were not of English manufacture. A barouche by Locati, of Turin, was also deserving of notice, as being a good and well-finished carriage. The iron work especially was well made, and also well painted. The Italian workmen, I have no doubt, possess a good idea of outline, judging from these specimens.

Siewers, of Berlin, has a landau, the head arranged to open and shut by a lever worked from the coachman's seat. It worked well, but required a good force to work. I think there is one objection to the use of these appliances when worked by the coachman—that they are likely, by taking his attention from the horses in a crowded street, to cause an accident. I am of opinion that Rock's principle of working landau heads is better. There is less iron work and more simplicity, and not so easily disarranged, besides possessing the advantage of opening or shutting from the inside.

In the other foreign departments where carriages were exhibited there was nothing requiring any notice on my part, all being much of the same, and without any novelty. I may mention Russia as an exception, as I have found a great improvement in style and workmanship in the carriages exhibited over those which were sent to the English Exhibition in 1862; and the travelling-carriage by Nellis, of St. Petersburg, well deserved the silver medal which was awarded to the builder for good substantial work, the travelling arrangements and fittings being compact and useful, and well constructed for the purposes for which it was intended. I do not think I have any further remarks to make on the foreign departments, and will now submit a few on the English section of the Exhibition; and in expressing those opinions, I have not the slightest intention of giving any offence, and only hope to fulfil the position in which I am placed by endeavoring to give a fair and impartial report of all carriages exhibited by every country.

Taking the English department in a general way, I may state that they are fair specimens of what English workmen produce every day from their workshops. Plain, simple, and useful; not constructed for show, but for useful purposes. It may be observed, perhaps, by the visitors to the Exhibition, that the English carriages did not look so fresh in their painting as the French. It must be remembered we had to unpack our carriages in the building, during the preparation for the opening of the Exhibition (which under ordinary circumstances of exportation would not in any way injure a well-painted carriage), while the French manufacturers sent their work fresh painted and direct from their workshops. And notwithstanding this advantage, which for the purpose of exhibition was decidedly favorable to the French, comparing one carriage with another, I submit we are not surpassed in this branch of coach-making. In the trimming department there is a great difference in the taste of the respective countries; and in examining those carriages that were trimmed in the English style, I see no marked difference in workmanship; on the other hand, I must give to the French workman the merit of being the best in ornamental and fancy trimming.

The landau exhibited by Offord is a very good specimen of trimming, but the lines of the body are bad. There is a good piece of iron-work in the front-carriage, but it has this disadvantage, that if an accident occurs the greater part of the iron-work must be removed, which creates unnecessary expense in repairing.

A landau, by Woodall, is also deficient in an important point—the head not having sufficient room to fall in the front-boot without resting on the panel, the head being prevented from falling flat thereby.

Rock, of Hastings.—Landau, fitted with his patent head, is a well-made piece of work, but the elbow-line of moulding is much too heavy. The head works easily and effectively; exhibited without painting or trimming.

Entered, according to Act of Congress, in the year 1868, by E. M. Stratton, in the Clerk's Office of the District Court of the United States for the Southern District of New York.

The landau by Wyburn, hung on iron crains, is a very compact and well-finished carriage in all its arrangements; also a phaeton by the same builder, well finished.

The segmental brougham, by Cole, of Kensington, is a good specimen of an English brougham, and well finished; but I think there is rather too much coloring in the lace, which did not harmonize with the lining; and less plating would, in my opinion, give a better effect to the general appearance.

Ivall and Large's single brougham was neatly finished, and in its general detail well arranged. Of elliptic-spring barouches, Macnaught and Smith, Worcester, exhibit a very light one; the iron-work well finished, and a good shaped body; but the whole arrangement is destroyed by the bad construction of the front-seat and foot-board, a great mistake being made in cramping the leg-room.

Davis and Sons, Wigmore Street, exhibit another of those elliptic barouches, and which I think is the best of that class of carriages.

A C and under spring barouche, exhibited by Laurie and Marner, I can hardly class as an English style of barouche, there being a good deal of French imitation in its arrangements; a little too much carving about the wings and some part of the iron-work, bad taste in the selection of the lace, and the broken line of the coachman's seat is out of all order; otherwise well finished.

Cockshoot, of Manchester, has one of those C and under spring barouches, which is of good workmanship, except that the line of the perch is not so pleasing to the eye, in consequence of the front end being curved, and does not follow with such good effect the front line of the body. There is a different kind of hinge from what is generally used introduced in this body, which may be advantageous where an outside step and cover are used, by allowing the door to open in a straighter line than could be obtained by the usual concealed hinge.

The barouches exhibited by the firms of Messrs. Hooper and Co., and Messrs. Peters and Sons, may be considered more in accordance with English taste, being simple in their construction, plain, and well finished in all their details; the outlines, being easy and graceful, give that idea of comfort which is essential to a well-finished barouche.

The four-horse drags exhibited by the above firms are of all others the most thoroughly English in character; and to maintain the prestige of the drag we must closely adhere to the opinions of the old coaching connoisseurs. The coach-maker, in constructing a drag, has not so much scope for his ingenuity as he has in the manufacture of other carriages. The purchasers of drags being a select class, each one having his own particular fashion, it follows that he has to work to that particular style which his customer orders, and can only introduce such improvements in its fittings and appointments as will make it in accordance with modern taste, and without materially altering its English character. I now have to describe the appearance of Messrs. Hooper's drag; but how far rounding the corners of the box-seat may detract from the comfort and coaching appearance it will be for the public to decide. I consider it a well-made, substantial carriage; the fittings and appointments are well arranged and suitable for coaching purposes, in good style, and of the best material, answering all the requirements of a well-appointed drag.

In reference to Messrs. Peters' drag, I have little remark to make as to its qualifications, it being of plain substantial workmanship, and of the best description; the fittings being well arranged and serviceable, with a novel and effective lever-brake, so arranged that it can be worked from either the front or hind seat at pleasure; and taking all its arrangements into consideration, and its general coaching appearance, I think the jurors have made a proper award.

I have now given a general review of all those carriages which were worthy of notice in all the departments; and to all I have given a careful examination, and have endeavored to give an impartial report. In submitting the results of my experience, both in the Exhibition and in the workshops of Paris, and having particularly noticed the work in course of construction, as well as what was finished in the show-shops, I am of opinion that what was exhibited by the French employers was of their best description, got up expressly for that purpose, and not in the ordinary way of trade. I think the artisans have a more mechanical idea as to working from scale and drawing, but are deficient in taste as to gracefulness of outline, and do not construct their work with such effectiveness and durability as the English. But at the same time, I give great praise to our French friends for their ingenuity, and for the friendly way in which I was received by them in their workshops, and for which I am thankful. But, I must confess, I see nothing yet to tarnish the reputation of English coach-builders.

In concluding this report, I may have introduced subjects unsuited to its objects, being inexperienced in writing official reports; but I trust to your kind considerations for any error I may have committed. And I may be permitted to return my grateful thanks to M. Haussoullier, the gentlemen comprising the committee, and the officials connected with the British Workman's Hall, for their courtesy and kindness in affording me any information that I required in the furtherance of the object for which I was sent; and I shall feel honored if this report of a working man meet the requirements intended and the approval of your Council.

OUR ASSYRIAN CARRIAGE MUSEUM—II.

PREVIOUS to the introduction of a second example of Assyrian art, we would remark that the design and general execution of the original bas-reliefs, from which nearly all are taken, evince an advanced degree of refinement, which challenges our admiration. The great object for which they were executed, doubtless was to record remarkable events in the history of the nation at a period of time when book-making and reading was less often resorted to than now, and in order to make the picture-record strike the mind of the beholder with more force through the eye, a conventional mode of representation was adopted, which was never afterwards wholly abandoned.

The ingenious author of "Nineveh and its Palaces," in comparing Assyrian with Egyptian art, says—"The Egyptians, like all other people in their infancy, attached importance to the exterior line only. In their paintings and sculptures they made strokes of astonishing boldness and character, by which both proportions and action were rendered with great perfection. But here their science stopped: and in later times, as in the most remote, they never thought of completing these outlines by an exact representation of the anatomical details contained within them. Their finest statutes are, in this respect, as defect-

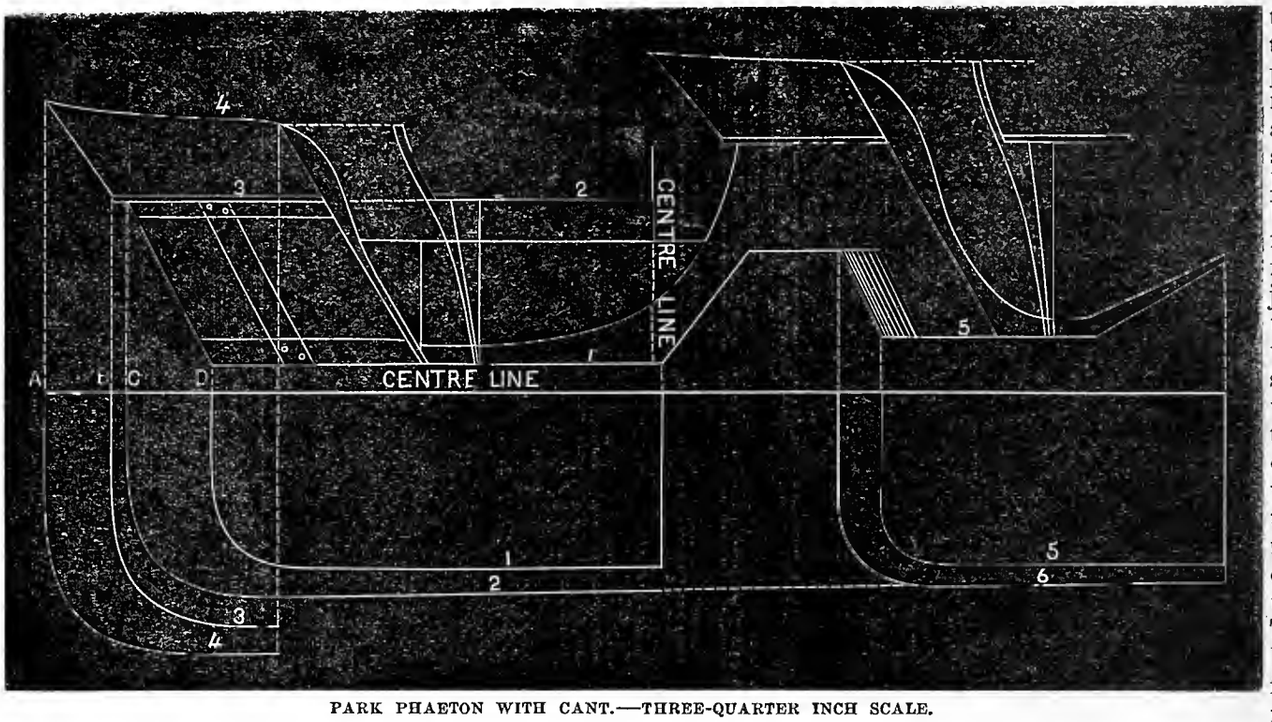
ive as their bas-reliefs and paintings. Seizing on the characteristic forms of their objects, they never varied them under whatever aspects; thus the front view of the eye was always introduced in the profile face; the profile foot in the front view of the figure; and but extremely rarely does the front face occur, although the body may be facing—a law which seems also to have considerably influenced the Greek sculptors in their compositions for basso-relievo; and as it appears to us, one imposed by the art itself. All the necessary details, however, for characterizing the objects in Egyptian and Assyrian relievi are always made visible, whether they could in the particular view be seen or not. Lastly, always sacrificing truth to the desire of hiding nothing which in their eyes appeared the more important, the Egyptian painters and sculptors have carefully avoided crossing the figures by accessory objects which would have hidden any part of them—a law which the Greeks also observed, and possibly to the same law may be attributed, in these and the Egyptian representations of battles, the larger dimensions they have given to the conquerors than the conquered.

"Most of these characteristics are found in Assyrian as well as Egyptian art; but they are less strongly marked; and the careful observer can perceive that the art is emerging from its state of infancy. The bodies are no longer all full-face, if we may so express it, and have less conventional stiffness. The figures consist no more of mere outlines; the heads are well modelled; and the anatomical details of the limb, the bones, and the muscles are always represented; though coarsely and ignorantly expressed, and with a conventional exaggeration indicating a greater knowledge of anatomy, but a less artistic mode of conveying their knowledge than is found in Egyptian figures of the same age. The reader need only compare some Egyptian figures in the British Museum with some of the Assyrian bas-reliefs in the same establishment, to convince himself how superior the latter are as representations of real life; but, on the other hand, they are decidedly inferior in justness of proportion and purity of drawing. In the Assyrian bas-reliefs, the figures are generally too short, and the artist has not always succeeded in endowing them distinctly enough with animation." Thus much we have given by way of criticism to prepare the reader for studying the objects which follow, reserving our own until we have subjects before us for practical examination.

SUPPOSED ASSYRIAN TREATY OF PEACE.—FROM A BAS-RELIEF FOUND IN THE RUINS OF NINEVEH.

The illustration accompanying this article, would appear to represent the conclusion of an amicable treaty of peace between one of the kings of Assyria and an enemy. The king having routed and put to flight his opponent—as is indicated by the fillet attached to the spear, at the rear of his chariot—has alighted to receive the submission of the Melek, or representative of the enemy, who probably is himself a king, likewise, as like the conquered he is attired in an embroidered tunic, while prostrate on the ground between them lies a soldier from the conquered army, divested of his armor, in token of humility. From the shape of his helmet, it is conjectured that this fallen soldier is a rebel Assyrian. Both negotiators are on foot, but the conqueror attended by two armed eunuchs—one holding an umbrella over his head—holds in one hand a bow, and in the other, upraised, two arrows, showing that, although peacefully inclined, still he is prepared for war if forced to such an extremity. The posture and the countenance of the petitioner, clearly indicate that he is anxious for reconciliation only. The victorious monarch is followed by his chariot, in oriental style, in which is mounted his charioteer guarded by a soldier, the horses being held by a groom.

Proceeding from the front of the chariot is a very richly embroidered appendage, probably answering two purposes, the one ornamental, the other as a preventative against the coming together of the horses. The form of this chariot is very much after the old pattern and plain. The spear is inserted in its appointed place, in a socket behind, ornamented by a carving representing a human head. At the rear is carried the embossed shield of a warrior, its accustomed place when not in use, while beneath the axles hang heavy tassels, serving as ornaments. An ample supply of arrows projecting from the quivers, accompanied by a battle ax, shows that the king is fully prepared for any emergency.



PARK PHAETON WITH CANT.—THREE-QUARTER INCH SCALE.

GEOMETRY OF CARRIAGE ARCHITECTURE.

BY A PRACTICAL COACH-MAKER.

BODY CONSTRUCTION—PART TWENTY-SIXTH.

IN this diagram is represented the park phaeton found on plate v, in this volume. In following out the rule for this kind of a job—the outlines being first correctly drawn—next ascertain how wide you want it on the seat and also how much flare you intend to give to the sides, then by drawing a perpendicular line, for a base marked "centre-line" on the body, and a horizontal one marked "centre-line" on the ground plan, you are prepared for work.

The next thing in order will be to draw the square lines at the back end of the body, as at A B C and D, and afterwards transfer the widths from the centre line on the body, to the centre line on the ground plan. This being done, it is a very easy matter to trace out the round you deem necessary to give to the body and seat. By adopting this plan every cross-rail may be shouldered correctly to one-sixteenth of an inch, without going to the trouble of setting-up the frame.

RULE TO BE OBSERVED IN BODY-FRAMING.

As the style and form of carriage bodies are all the time changing, it is necessary that body makers have some fixed rules, or general principles to govern them in the framing. In framing a body, it is as easy in many places to make the tenon on one piece as on the other, or where the pieces are halved together, the outside joint can be made parallel with either piece.

In many carriages some of the outside joints in the frame-work are made so that they are parallel with the grain of the wood in the panel. In such cases, if the frame-work be not perfectly seasoned and dry, or if the carriage be subjected to a severe strain or twist while in use, the joints sometimes open, and the panel is liable to crack at that particular place: in fact, is almost sure to. It should be the rule to make the joints in the frame work in such a way that the grain of the wood in the panel will cross them. This binds the frame more strongly together and also prevents the panel from checking. In some places, it is impossible to make the joints in this way. When such is the case, the shoulder of the tenon should be boxed into the piece which has the mortice in it, so that the panel which covers the joint, will be supported on each side of it by being glued solidly to the morticed piece.

I am led to make these remarks, by reading in your cotemporary, instructions how to make a concave coal-box body. The writer says that after the side panels are glued on, the corner blocks should be fitted down on to the bottom side and glued in, and then the back panel glued on. I object to this manner of putting in the corner block for the reason that the joint between it and the bottom-side comes parallel with the grain of the wood in the panel. The corner block should be halved on to the outside of the bottom-side. This will give a joint that the grain of the wood in the panel will cross, making a corner strongly and securely bound together.

I think it preferable to hollow the inside of the corner block before putting it on the bottom-side. I make it a practice to take a long piece, dress the two outsides to the required bevel, then hollow the inside. Next I cut it in pieces of the required length, then halve and glue them on to the bottom-side before glueing on the panels.

BODY-MAKER.

AGRARIANISM.—A modern *reformer* says, "It is fearful to think what misery must have been caused to allow a single man [Daniel Drew] to accumulate sufficient to warrant such extravagance [as purchasing a house for $128,000]. He and his partner, . . . Cornelius Vanderbilt, who handle the railroads of the country as ordinary men move checkers, hold within their grasp the welfare of many thousands of honest plodding sons of toil and their families." Men who view matters in a sensible light will naturally conclude, under the most charitable construction, that the writer of the above is—insane.

Home Circle.

MORNING AND EVENING.

BY ROSETTE A. ROSE.

The sun had ushered in the morn,
The stars had gone to rest;
And misty veils of glory wreathed
The morning's dewy breast;

And joy seemed hovering o'er the earth
In shining robes of light.
How could a mortal's heart be sad,
When nature smiled so bright?

No flower but smiled 'neath beauty's glance,
No song-bird of the air,
But warbled sweet melodious notes
For morning praise and prayer.

How like to youth's bright opening days,
That smiling morning seemed;
How like the glow of youth's bright hopes,
The golden sunlight gleamed.

O youth's bright morn is beautiful!
'Tis well, if every ray
That gilds its joy, shall last until
The close of life's long day.

The scene was changed. The evening hour
Had crimsoned all the west;
And clouds of glory wandered where
The day had gone to rest;

And over all the azure sky,
The star-light's twinkling glow,
Shone with a softer, purer light,
Than morn could ever know.

The morning waked to toil and care,
But evening brought repose;
And heaven seemed whispering to the earth,
At day-light's gentle close.

So comes the evening of a life
That has been truly spent;
A gentle calm, a holy peace,
From paradise is sent,

To lift the weary spirit up,
And whisper of the rest,
That waits for those who've nobly trod
The pathway of the blest.

The hopes of youth are dazzling bright,
But age has sweeter joy,
When earth seems melting into heaven,
And nothing can destroy

The wealth of bliss that reigns within
A soul that's kept the way,
That leads into the glorious light
Of heaven's eternal day.

BREAD-WINNING.

CHAPTER II.

BY MARY A. E. WAGER.

"THERE is a destiny which shapes our ends."

RANDOLPH LEEDS' opera-glass followed the fair *equestrienne* until she was hidden from his view. In his opinion, a handsome woman never showed to better advantage than when mounted on a horse, if she rode well. And as this woman seemed to answer both requirements, it was decidedly the most pleasing picture that had come within the range of his vision since his return to America. As he had nothing better to do than to speculate about her, he sauntered leisurely toward the house, to ask the housekeeper's aid in the matter, notwithstanding his scruples against seeming interested in a woman who was so far out of her "sphere" as to be riding unattended.

Mrs. Simonds was arranging the midday meal, according to the usual country hour custom. And when the dinner was placed in savory sweetness before the master of the house, he very nonchalantly asked:

"Do many of the ladies about here ride on horseback, madam?"

"No, not many," she said, and then went on to say who did, and after she had finished, Mr. Leeds further remarked that he "had seen one riding to the north that morning who presented a very charming appearance."

That was enough to rouse the curiosity of Mrs. Simonds, and she began to ply him with the usual array of feminine inquiries, as to how she was dressed, and other personal appurtenances. Mr. Leeds replied by saying she rode a black horse, and that her habit was wholly black, save being relieved by lines of white, which might have been an ostrich plume, and trimmings of fur, for all he knew to the contrary.

"Oh, yes, yes!" said the housekeeper, very delightedly, "that was my relative, Miss Irene Banks. She *does* ride like a queen. But I wonder why she is over this way now? I supposed she was through buying grain for John Bradley."

"*Buying grain!*" And cool and unimpassioned as Randolph Leeds seemed, it was evident the two words he ejaculated with so much vehemence, had something to do with his usual equanimity.

Poor Mrs. Simonds was for the moment very much crestfallen, and sorry that she had been so indiscreet as to claim relationship with a woman whose business affairs had so shocked the man's sense of propriety. So she hastened to rally her forces, by giving a history of Irene's life—her beauty, her genius, loss of health, orphanage, and that only necessity compelled her to adapt her capacities to business relations; for she had extravagant notions—wouldn't marry anybody, and, on the whole, she was dreadful odd.

"One of the 'strong-minded,' I should infer," answered Mr. Leeds, with a decided dash of sarcasm in his tones. He was of that class of men who hold to the antique theory of the oak and the vine practice, so that any woman who had the tact, and sense, and strength to stand

alone, was not only an anomaly, but a distasteful libel on womanhood. It all centered down to the semi-Scriptural dogma that every woman should have something she acknowledged as her "head," and whom she must consult and obey, in all things. If there were no oaks for the vines, then stumps, or fences, or even brush-heaps would do, as supports for the clinging and beautiful tendrils. He had a strong infusion of the popular idea of "strong-minded females," which always conveyed a picture of a harsh, shrill-voiced treble, old and ugly, and in half male attire, and wielding a sledge-hammer as effectively as a cambric needle. But lo! here was a woman, delicate, cultured, womanly, and—strong-minded.

It was simply paradoxical.

That there might be a possibility of obtaining another glimpse of this unique specimen, he concluded to spend the afternoon about the grounds. So he lighted a cigar, for what special purpose only a philosopher of smoke can tell, and went out. And so it happened an hour or two later, that he distinctly saw a black horse, bearing only a lady's saddle, go furiously by. Hastily reaching the road, he ran in the direction from which the horse came rushing, rapidly nearing what at first might have been taken for only a heap of dead leaves, piled by the autumn winds, but which proved to be infinitely more—a woman, and seemingly dead at that.

To remove the crushed down hat from her face was his first work. The face was death white, with closed eyes, and blood oozing from the delicate nostrils, but at the wrist and above the heart he found evidence of a faint life.

Lifting the limp, motionless figure in his strong arms, he bore it rapidly but tenderly down to the gate, up the broad path, resting it on one knee at the door, while he sent a bell-peal through the house, and then passed into the parlor and deposited his burden on the sofa.

Mrs. Simonds came in a great flurry, nervous at such a loud alarm, but was met by Mr. Leeds, who quickly despatched her for restoratives, which she soon brought. Catching a glimpse of the face, she seized Mr. Leeds by the arm, crying, hysterically, "Why it's Irene! it's Irene." But he commanded her to silence, saying, "Her horse threw her. Send John for the doctor, immediately." And issuing orders in such a way that the housekeeper concluded she had never heard orders before, and put her hands to do whatever he bade her, without stopping to question anything. Once or twice she ventured to look from her work to Mr. Leeds, and saw how white and troubled looked his face, while in every way he seemed to do the work of two pair of hands, in their efforts at restoration. At length life seemed to be a little stronger, but it was a dreadful length of time before the physician arrived. Her unconsciousness left room for scarce anything more than conjectures as to the extent of her injury. Nurse Minturn, a sort of neighborhood property, having been sent for, had now arrived, and everything was done that was possible, for the welfare of the "strong-minded woman" so unexpectedly thrown upon the hospitality of a man who so thoroughly abominated creatures of that ilk.

It was not until the second day that Irene gave satisfactory proofs of restored consciousness. Nurse Minturn, wearied with loss of sleep, was lying down in an adjoining room, having left Mr. Leeds a willing watcher. Much as he would have avoided a personal meeting with a real live Amazon, he would not fail to improve the opportunity of watching one who had been rendered so pitifully harmless by the loss of her strength. Her face had grown very familiar to him—every line and curve of the features, the long eye-lashes and delicate-veined temples, the low, broad brow, with its crown of waving hair, all formed a picture he never tired of looking at, and half dreading when the eyes should open to a consciousness which would put an end to his pleasing occupation.

But the end came, and the blue eyes opened into a face that was all strange to her.

"Why, where am I?" she said, drawing her hand across her eyes, as if to clear away a mist—"and Blackthorne—and that ugly dog? I cannot make it out!"

"Don't try to, my dear," began Mr. Leeds, half fearing a scene. "I am Randolph Leeds—your horse threw you—I picked you up and brought you here. Mrs. Simonds says you are Miss Banks. You have been ill, but are now much better. It will all come right, I assure you."

"It's very odd," she said, and with a little moan, as of pain or weariness, her eyes closed again, and she fell into a light slumber.

It seemed quite as odd to the man who unwittingly had been betrayed into calling the dreaded creature "my dear;" and now that he had seen her eyes and heard her voice, he confessed to himself there was nothing very dreadful about her, but, on the contrary, a strange fascination that he could not account for. He had seen sick people before, but no woman save this one, had he lifted in his arms, and saved from what otherwise would probably have resulted in death. It might have been this that made him long to take the slender hands in his own, and kiss the sweet white brow that lay so calmly under the silky hair. But nay, he dare not, and he knew as strength returned, so he in proportion must cease his presence, where he had no proof of its being a pleasing one.

A few days later found Irene rapidly convalescing, so that the doctor ceased his visits, and Nurse Simonds yielded to her patient's request to be wheeled into the parlor, where she could find something new to look at. It was a bright, cheerful room, with an open grate, and above the mantel were some of the quaintest engravings she had ever seen, encircled in equally odd frames. It all seemed like a dream, as she sat thinking of what had happened—all so half-developed and vague. She was safely out of the grim hands of Death, and yet as equally removed from actual, real relation with life. So she endeavored to make it seem real by tangible objects, looking at her hands, bending her fingers, playing with the tassels of her wrapper, and finally asking for a hand mirror, in which to see *herself*. But she soon handed it back, as she confessed it made her feel sorry for herself. Then she wondered why Mr. Leeds kept himself from view. That he had done so much for her when she was unconscious, did not excuse him from evincing a little interest in her welfare now that she was capable of appreciating it. And for want of something better, she concluded he must belong to the Arctic race of humans, whom nothing short of the most dreadful apprehensions could thaw into common civilities. Just then a quick, firm step came across the hall, entered the parlor, and turned for a re-

treat, but was delayed by a countermanding gesture from Miss Banks.

"Nay, I want to see you," she said. "That is, if you are Mr. Leeds. I have a faint idea that some one like you called himself Randolph Leeds, and told me I was Miss Banks, and something more that sounded rather tragical. I've been trying this half hour to convince myself of my identity, and whether I am dreaming or not."

"Pray, how do you succeed?" laughed Mr. Leeds. "I shall be most happy to serve you in any way I can."

"Thank you. If you are my very humble servant, pray you, be so good as to stand at the corner of the mantel, so I may look at you! The people who have been in to see me, say a great deal about my owing my life to your efforts, and—and if that be so, I suppose I ought to overwhelm you with thanks, and murmur something about eternal obligations, and the like. But I feel too stupid for all that to-day, and I only wanted to see how 'my hero' looks."

Mr. Leeds had obeyed her request by going to the end of the mantel, and despite all his self-control, exhibited in his face that peculiar look that "what next will she say?" gives one. But after she had finished speaking, and had looked him over, as an artist would a model, he recovered himself, and said, coolly:

"Well! and what think you? will I do?"

"Yes," she said, slowly, and as if he would not quite do. "You are nearly six feet tall, aren't you? and your eyes—I cannot quite tell! I would put a little fire and flash in them, I think. Or is quiet, steady strength more appropriate to heroes? Really, I cannot decide which yours are, unless you will come nearer."

She was neither earnest or light in her conversation just then, so he could not tell but that she was making game of him, and if so, only to add another scene to the farce, he knelt on one knee at her chair, thus bringing his eyes in horizontal range with her own. She regretted it at the moment he obeyed, but would not confess it. So she looked at his eyes very serenely, conscious of her power to control the gaze of her own, and decide without any special show of interest. But if she was a Trojan, he was a Greek, and she had built the wooden horse into which he had entered, on his knees at her chair, and lo! caused her own defeat. For she not only saw, but felt a strength in the man's eyes, deeper and intenser than any she had felt before, and of a largeness and steadiness that made her own meagre and puny weak. The color came to her temples, and with a decided show of nervousness in the movement of her hands, she said: "That will do. I thought they might be black instead of gray. I declare, I believe I am tired sitting up—would you mind sending Nurse Minturn to wheel me to the sofa?"

"Yes, I should mind it. But I will wheel your chair thither, if you like."

"Thank you! I'm done talking with you to-day!" which he accepted as a hint upon which he might depart at once, not, however, without a sense of some ungracious flavor about it. He sent the nurse, to see if the sofa arrangements suited his fair guest, and then gave himself up to speculation for the rest of the day, which resulted in the verdict that he had a book to read which was not only unique but decidedly new.

(*To be concluded next month.*)

Pen Illustrations of the Drafts.

SPRING-BAR BUGGY.

Illustrated on Plate V.

The buggy on this plate is from an original design, by our own artist. Some of the curves about it are decidedly unique. The lower portion is very much after the yacht pattern, while it partakes of the coal-box nature in other details. The wheels are 3 feet 10 inches, and 4 feet 1 inch high; hubs $3\frac{1}{4}$ by 6 inches; spokes $\frac{3}{4}$ inch; rims $\frac{7}{8}$ inch. For use on a good road the tire should be steel and light, say $\frac{1}{8}$x$\frac{3}{4}$ inch.

PARK PHAETON.

Illustrated on Plate V.

This design is the contribution of our friends, Messrs. Brewster & Co., of Broome street, New York city. For a family carriage, to those able to support such a "turn-out," this will be found just the thing; the seats being set high, giving ample leg-room, and the top thrown down, making it very airy, two very essential advantages in pleasure-taking. The drawing is so perfectly made, that we need not describe it in all its details, since it explains itself, and, therefore, merely hint at a few things engravings cannot show. In our estimation, black is the better color for painting, both body and carriage, but to those who are fancifully inclined on this score, we recommend the article on striping, with illustrations, given in this number. Dark linings are recommended in preference to light, as in open carriages this last soon gets soiled, and unfit for a decent show. Wheels 3 feet 2 inches, and 3 feet 10 inches.

EXTENSION-TOP BAROUCHE.

Illustrated on Plate VI.

Through the courtesy of James B. Cone, Esq., of 684 Broadway, we are enabled to give our subscribers this fine drawing, from a carriage of actual build. It would be hard to find a more suitable design for this kind of a phaeton, or barouche, in the whole range of art, and yet the carriage itself exceeds in beauty anything we can illustrate in the draft. The wheels, which are of the same size in detail as those on the carriage on Plate II, of this volume, are 3 feet 3 inches, and 4 feet 2 inches high. See page 8.

TURN-OVER SEAT PHAETON.

Illustrated on Plate VII.

Some builders think that we have not improved much by omitting the perch in carriage making. Carriages certainly look a great deal lighter, and beside can be made to turn round in a smaller circle without them, although

for country use, where the roads are bad, they are not as efficient or strong. They are likewise more expensive—of which truth it is difficult to convince the public—the usual difference between the cost of a no-perch and a perch carriage being about seventy-five or one hundred dollars. For these reasons, "old fogies," in our times, will seldom be persuaded to order no-perch vehicles, not because they fear the expense, but because they will not trust their lives in one.

The drawing is from one of our correspondents, and is a very good design for this class of phaetons. The back seat, which is so arranged as to be made to turn in and out of sight, renders it suitable for either two or four passengers, according to circumstances.

STANDING-TOP BUGGY.

Illustrated on Plate VIII.

THIS design is also a contribution from Messrs. Brewster & Co., of Broome street and Fifth avenue, New York city. It is well calculated for a light depot vehicle, as it can readily be accommodated to either "rain or shine." This drawing sufficiently explains itself, without entering into further detail.

Sparks from the Anvil.

TIRING FOR CARRIAGES.

LATTERLY we have had so many inquiries on this subject, that in order to satisfy the public, and save ourself the trouble we might be subjected to, in answering individuals, we have determined to devote an article to the "tiring of carriages," confining ourself chiefly to its practical operation, in which doubtless our own country is far ahead of any other.

Every practical American carriage-builder is aware that for the last thirty years the proportions of our wheels "have grown smaller by degrees, and *dangerously* less," especially the felloes, or rims. When these were cut out of the plank in sections, they were neeessarily made heavy as well as the tire, the one to protect the other, and *vice versa*. But in this age of improvement all this clumsiness is discarded, and a new order of things has been adopted. The great *desideratum* among us now being to make everything about a pleasure vehicle as light as possible. A moment's consideration will convince any one disposed to think, that this could never have been accomplished, had we not disearded the old felloe for the bent rim. (By the way, the bent rim is at least a century old, as is proved from Felton.) When this was done we found that our tiring must be lighter too, to correspond, and soon afterwards that if made of iron, it was unsuited to the emergencies of rough roads. To provide a remedy brought into requisition steel, but this—although it met the wants of summer, could never stand the effects of cold, without breaking. This fact induced experiment, and the homogeneous tire (something partaking of the quality of iron and steel) was the result.

The homogeneous article, as imported from Europe, was found too hard for us, and so was abandoned. In its place for a while an article, which was never anything else than iron, a little hardened, was pressed into service, and found a large sale. This was too soft for any practical or useful result, and has been superseded by an article known as the Farist Steel Co.'s Homogeneous Steel Tire. This is made at Windsor Locks, Conn., as will be seen from their advertisement, on the second page of our cover. It is not only hard and tough, as we have discovered from experience, but is readily welded, very different from the imported article. The best manufacturers use this steel in preference to any other.

In addition to the above, we find that Messrs. Jube & Co. of this city have latterly imported a new article of tire steel from England, which we have heard highly spoken of, as it is not only fine in quality, but tough and easily welded. See their advertisement elsewhere.

DRILLS FOR IRON-WORK.

To make a good and serviceable drill is an art which very few workmen fully understand. It is not alone necessary to have it properly shaped—though that is very essential—but it must also be of the exact temper, neither too soft, nor too hard, to be worth anything. On this subject, our cotemporary, the *American Artisan*, has some very pertinent observations, which we copy below:

"We will suppose that the young mechanic has to forge and make his own drills; then let him observe that the point of the tool must be quite flat and even, and that this flat form must extend for some distance up toward the shank end; the width ought to be a little less than the width at the point, which may be made with parallel edges for a little distance, so that when the point is reduced by grinding it will be of the same width and produce the same-sized hole as when first made. This parallel portion need not extend more than half or three-fourths of an inch, and then it may gradually taper until it assumes the form of the body, which ought to be round or octagon. This flat formation will give room for the chips as they are made by the drill, and there will be less tendency to bind, by the accumulated mass of chips, than if the body of the drill nearly filled the hole.

"It is necessary that the cutting angle of the drill be observed, and the angle best adapted for this purpose is that of 60 degrees. This angle can be first obtained by filing, but afterwards must be kept by grinding when the tool beeomes worn or dull. As the angle of 60 degrees is that formed by an equilateral triangle, it is easy to keep this angle, when it is necessary to grind the drill, by making a block of wood of this angular form, if it were cut transversely, and place it upon the frame of the grindstone, letting one angle of the wood and stone nearly touch; then lay the drill flat upon the outer angle of the wood at each time of grinding, and the proper angle can be easily retained.

"The form of the point of the drill should be attended to; and the angle of 90 degrees, which is one-quarter of a circle, is, perhaps, the best form for this point. If the young mechanic has an iron fitting-square, let him place the drill in its interior angle, and he will easily ascertain how much the variation will be from this form. To observe if the drill be ground true or equal upon each side, the distance from the body of the drill to the ends of the

arms of the square can be sufficiently measured with the eye. It is quite necessary that both cutting edges of the drill have an equal extent, as it is evident that to produce a good hole each side or cutting edge must perform its proportion of the work, and these proportions must be equal. If one cutting edge of a drill be longer than another, the longest side will have the greatest portion of the work to do, and the result will be an uneven and unsatisfactory hole, which is liable to be made crooked, and the surface of the metal filled with "chatters." If one side of the cutting edges be of a different angle, the obtuse side will have to perform the labor, and the same results as mentioned may follow.

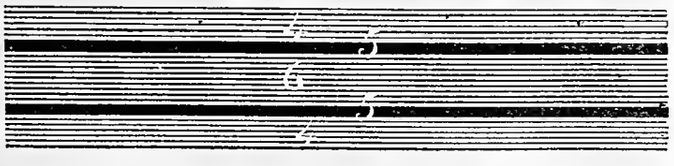
"There is one advantage which may be taken by grinding one cutting edge of the drill longer than the other. If the drill be a trifle smaller than the hole to be made, by thus grinding and careful manipulation a hole can be produced much larger than the diameter of the drill. If it be desired to have a hole larger at the bottom than at the end where it was commenced, by thus grinding the drill, as it proceeds, at different times, and increasing the length of the side each time, it can be accomplished. In all its operations the point of the cutting edges of a drill is the centre upon which it revolves, and the distance from this point to the limit of the longest cutting edge will be just half the diameter of the hole that the drill will make."

Paint Room.

CARRIAGE STRIPING.

There seems to be no particular style of striping for carriages this season, almost every conceivable mode being resorted to as suits the fancy of a customer or the whim of the manufacturer. There is, however, one or two more in use than any other. The first diagram we give for the benefit of our subscribers, in four different contrasts.

We will suppose, *first*, that the ground color is black and that the three stripes, the broad and the two narrow ones, are red; *Secondly*, that the striping is blue on a black ground; *Thirdly*, that it is black on a red ground, and *fourthly*, that it is white on a blue ground, all after the pattern given above.



In the second diagram, we will suppose that (4 4) the ground color, is black; that the narrow stripes (5 5), are red, and that the broad one (6), is crimson, or purple. These may be changed—the ground color to green, the narrow stripes to yellow, and the broad stripe to black.

It is wonderful how many changes may be made, when the stripes, although after the same arrangement, are laid on in different colors. The paterns we give with this article, will answer every purpose for proving the truth of this assertion.

ENGLISH VARNISH.

The superiority of English, over all other varnishes yet manufactured, is well known to carriage painters, and freely acknowledged by candid American varnish-makers. Several attempts have been made to rival it in this country, and although successful to a certain extent, thus far they have failed to equal the imported article. That it is not on account of the ingredients used, is certain, because the articles of which it is composed—the oil and turpentine—are furnished by us, and the gum used in both countries all comes from the same place. The secret, then, must be in the manufacture somewhat, and in *something else* which thus far we have never been able to find out. We have had Englishmen who profess to have labored in English varnish manufactories, and to understand the matter thoroughly, and yet, although well paid, when they have been set to work, they too have failed to equal the original English.

We have very little doubt that much of the good qualities of the English article is due to its age, which, owing to its lesser price, and our Yankee go-aheaditiveness, will not admit of being availed of in this country. Even in using the English varnish already furnished to our hands, we cannot wait for it to dry as the Englishman does. We consequently get "the medium" made abroad on purpose to accommodate us and our importunate customers, who, instead of four months as they should, will hardly allow us as many days in which to build a carriage.

We have thought, although no one has suggested it to us, that climate may have something to do with the manufacture of varnish. It is well known that damps and fogs are peculiar characteristics of an English atmosphere, while ours is comparatively clear and dry. May not the process of varnish-making be in some way affected by the surrounding atmosphere, so as to give the foreign article a better quality for the purpose desired? We shall be happy to hear from our readers on this point.

Among us the two most popular varnishes are Nobles & Hoare's, and Harland & Sons. The first has long been in use here, but in the last few years has lost some of its better name. Whether this has been on account of the demand, which has hurried it into the market, before it was "ripe," or from some other cause, we cannot say, but such is the fact, and as a fact we must say it. During the late war this was quite manifest, and very few painters could spread Nobles & Hoare's varnish, and not find it "pit." It likewise would become more or less *streaky* in drying. Such is not the case with Harland & Son's. Painters who cannot possibly use the first, and make a good job, have used the latter with entire success. We know of one leading carriage-builder in this city who has always used Harland's in preference to all others, and the higher price this last is sold for, about one dollar the gallon, is of itself evidence that it is now in greater favor with the manufacturers of this country, than any other. The sole agent for Harland's English varnish, are Messrs. Driscoll & Palmer, of 611 Broadway, whose advertisement will be found in our pages.

SPONGES.

MANY persons engaged in painting who daily use a sponge, have very little idea of what it really is. They have been told that it is found at the bottom of the sea, and believe that it must be vegetable, because everybody else thinks so. Modern science—as in many other instances, on this subject — teaches us that it is animal, and has placed it in the class *Protozoa*, a class most resembling plants.

The sponge as put into our hands, is merely a skeleton of the original. When in a living growing condition "deep in unfathomable seas" it had a covering all over the outside, the little holes of which it is composed being filled in with a juicy substance of a fleshy nature, and full of life. The reason why it was pronounced a plant, doubtless was, because it has always been found in its watery home, fast anchored to a rock, where it is nourished and fed by the minute sea-water animals which float within its reach. The color in its living state is a dull bluish-black on the upper side, and a dirty white below. All through the entire mass of this singular animal circulates blood and food, for which the little ducts we term holes, serve as channels. Into the largest of these holes, the "ocean tide" is constantly received, and voided at the smaller ones, the animalculæ, with which it is filled being only retained to sustain life.

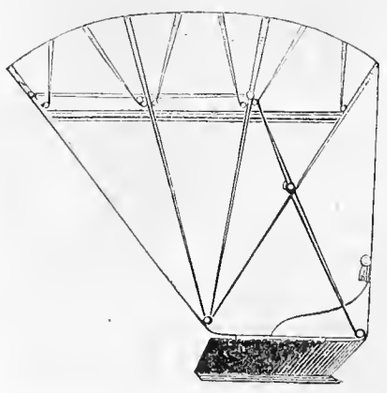
The mode in which *this animal* propagates its species, is singular. From its soft part, a little globule floats off, and after moving about, here and there, very briskly, when it reaches a favorable place, it attaches itself to a rock. At the end of about three years it is large enough to tempt the cupidity of the diver.

The finest sponges known in commerce are found in the Ægean Sea, the inferior being fished out of the Gulf of Machri, on the coast of Barbary, and other places. From May to September, thousands find employment at this unhealthy business, leaving only the old men, women and children, in the villages at home. The divers only work in the day-time, and when the surface of the sea is smooth, and they can see well in deep water, where the best sponge is found. Each boat is occupied by six or eight men, in which they paddle to where the water is from ten to thirty fathoms deep, when they proceed to business. Each diver puts a kind of hoop around his neck, with a bag attached, into which, as he gathers, he puts the sponge, which at noon they take on shore and there prepare them for sale. The first process is to press out the soft part of the animal under the feet, then they bleach the remaining portion in the sun, after which it is washed and cleaned. It is now of a dull, yellowish color, as we find it in shops. The very nature of the diver's occupation is detrimental to life; therefore not very desirable, and only to be resorted to by a people who have nothing more profitable in which to engage.

Trimming Room.

EMMONS & SIMPSON'S IMPROVEMENT IN CARRIAGE TOPS.

ALL carriage-makers find that after a vehicle has been some time in use, the leather between the bows of tops will sink down so as to spoil appearances. The improvement here illustrated will most effectually prevent it, and preserve the head in its original beauty, as will be seen from the diagram. This is accomplished by fixing smaller and shorter bows between the longer ones, on a pivot, so as to fall almost as flat when down, as in the common method. Shop or county rights to use this improvement can be had on addressing Emmons & Simpson, Geneva, N. Y.



WIRE SPIRALS IN TRIMMING.

THE best heavy carriage-linings now made are filled with spiral wire-springs, secured in place by tying, something after the manner of a mattress. In the first place prepare a good stiff back of paste-board and buckram, to which secure the springs thick as needed, and face them —enclosed—in another made by pasting two thicknesses of strong buckram together. To this fasten the other ends of the springs, by sewing, with a strong thread. The whole being nailed to the inside of the body in such a way as to clear the panels, may afterwards receive the facings of hair and cloth, as in ordinary trimming. This mode of trimming makes the linings much softer and comfortable than they can be made in the old way, without the springs.

STEP-COVER AND WHEEL-FENDER.

ONE great difficulty experienced in heavy carriages with a door in the side, has been accumulated mud, spoiling the ladies' dresses, and putting "the dear things" in a bad temper. This is entirely remedied by using Gosling's "combined step-cover and wheel-cover," advertised in this Magazine, so that now a gentleman may ride out with his wife of an afternoon, and return home in the evening with her temper as unruffled as the surface of the placid lake, in a still summer's day—a very fortunate success! Every ladies' man ought by all means to have this fixture applied to his carriage. Please give the improvement an examination.

Editor's Work-bench.

VISIT TO WESTERN NEW YORK.

ON Tuesday morning, May 19th, having provided ourself with a good stock of Magazines, and a folding umbrella, we started for the West, *via* the Hudson River Railway, first stopping at Tarrytown, a place of some note in carriage-making, but more celebrated as being the locality of the capture of Major John Andre of the British army in our revolutionary struggle for independence, who was afterwards hung as a spy on the opposite bank of the river. A fine monument, erected at the charge of West-

chester county, in which the events commemorated took place, tells the story of a most important crisis in our national history.

There are three shops in this place, among them H. Bird's and that of W. J. Sutton. Mr. B. was away, but Mr. Sutton made our visit a very pleasant one in talking over various matters connected with trade. He showed us a very fine buggy which he had just finished, that would be an honor to any shop. Tarrytown, at no distant day is destined to be, if not already, one of the most pleasant and interesting rural towns in the vicinity of the commercial city of our great country.

Our second stopping place was Fishkill. Crossing the river to Newburg, we made a hasty call upon Messrs. L. J. Bazzoni, Martin, Delany & Kent, and Charles H. Weygant, proprietors of the principal carriage establishments located there. The two last are comparatively new, Mr. B's. being the oldest shop. We had the pleasure of seeing Mr. W. for the first time, on this visit, and an opportunity to inspect some very fine work he is now building. We shall expect, as he is a young man, that Mr. W. will yet distinguish himself in the line of making good work. All these gentlemen received us in the most brotherly spirit, and gave us their individual patronage.

In Fishkill we found three very good shops, some of them brick. As we had never visited this place before, on business, the faces of all were entirely strange, but we soon made the acquaintance of Mr. J. Ackerman and Messrs. W. & G. Peattie. The other shop seems to have given their patronage in another direction, and as this and one other are the only ones we have discovered in our travels, we note it for the benefit of such advertisers as have some money to throw away on partisan agrarianism.

At Matteawan we found Messrs. Jackson & Davis, who made our visit all we could wish. These gentlemen are real, live carriage-makers, no doubt bound to succeed in business, for which they appear to be well qualified both mechanically and socially. In the evening we proceeded to Po'keepsie.

On the morning of the 20th, we paid early visits to Messrs. Mullen & Sague, both young and enterprising; Street & Lockwood, old friends of ours; Edward Storm & Co., extensive dealers in carriage-materials; J. J. Brooks, and Mr. J. H. Marshall, all of whom received us in the most cordial manner. Indeed, this visit was only painful on one account, the thought of how much pleasure we had lost in not seeing the friends in Po'keepsie oftener, during the last five years. As will be seen elsewhere, we once more met with our esteemed friend, J. N. Raub, who we believe everybody loves, who knows him.

Stopping at Rhinebeck, we took the Lark for Rondout, and a horse-car for Kingston. With Messrs. Curtis, Bowen, & Co., we spent an hour in the most pleasant manner. This is one of the liveliest shops in the country. and up with the times in everything. There we found some seven or eight men engaged in sleigh-making, for which this firm already has sufficient orders to keep them engaged all summer. Returning to Rondout, a hasty visit to the two shops there located, closed our day's labor.

Thursday morning found us at the "Stanwix," in Albany, with an excessively rainy day before us. Notwithstanding this, we obtained several subscriptions and two advertisements, making other sales to the amount of $75; not a bad day's work. As we have several times noticed the principal establishments, we may be excused in merely noting some changes which have taken place, since our last visit.

The old firm of Kingsbury & Whitehead has dissolved, Mr. K. retaining the old stand, where he still, with other vehicles, continues to build fine hearses. Messrs. Shaw & Rose have made some important additions to their premises, so that now they have ample room to carry on their daily increasing business. We saw here, one of the prettiest skeleton trotting-wagons it has been our pleasure to examine, hung off with spring perch bars. Mr. James Goold, who is now about eighty years old, is regularly at his shop every morning, in good health, apparently more ambitious even now, than some men of forty-five. An hour with him in agreeable conversation, put us in possession of many valuable facts relating to carriage-making in "the olden times," which we shall dress up for the reader hereafter.

The evening of the 21st found us in Fort Plain. The continuous rains had so swollen the Mohawk, and the valley was flooded to such an extent, that in some places it looked very much like an inland sea, in some places even covering the railway track. There are four carriage-shops in Fort Plain, and some very good work built there. Mr. Burke, our long time friend, has recently come very near being burned out. A neighboring blacksmith shop, which was entirely consumed, injured his dwelling to the amount of one thousand dollars, but it was fortunately saved by the wind in another direction. A hasty call in Little Falls and Herkimer finished the fourth day.

The morning of the fifth day was spent in Utica. Here we have several friends, but having so fully noticed them only a year ago, we must pass on to Rome and Syracuse. In the latter place we note some changes. The firm of Edwards & Gilman has been dissolved, Mr. G. having gone into soap-making, and the senior partner left to close the old business during the year. Mr. Jason H. Hoyt, who occupied one of the oldest shops in the place, has very recently taken into partnership with himself, Edward Holmes, late of Bridgeport, Conn., and his

nephew, Thomas B. Hoyt. Here we saw some very fine work, a specimen of which we intend to show our readers soon. Having been introduced to Messrs. Olmstead & Jones, by our friend, T. D. Davis, we secured an advertisement which will be found on the second page of our cover.

Early on Monday morning, we proceeded on to Auburn, making a call upon our friends, Messrs. Hayden & Letchworth, whose card will be found in its proper place among our advertisements. One feels so much at home in the company of these gentlemen, that it is pleasant to do business with them.

Our next visit was to Geneva, upon our long-time acquainted friend, D. W. Baird, who not only gave us a cordial welcome, but did all he could to make our visit a pleasant one, by introducing us to his workmen, and showing us other attentions. Here we saw some superior made buggies. Mr. B. has recently patented a coupling for the reach and axle on the hind end, which we intend to notice more fully hereafter. Messrs. Emmons & Simpson, who are workmen in this establishment, are the inventors of the patent bows described on page 27. In this place is located the spoke and bending works of McDougal & Co., elsewhere advertised. The timber they use appears to be of the best kind, and we have no doubt that such as desire the article will do well to deal with them.

In Rochester we had the pleasure of a call upon Messrs. J. Cunningham, Son & Co. and J. H. McDonough. These gentlemen we found very busy. The latter is erecting a new shop 40 x 70, three stories high, on the corner of Water and Mortimer streets, which he expects to remove to on the first of August.

Taking the cars at noon, we passed on to Le Roy, paying our respects to Messrs. W. S. Brown & Co., who we also found with as much work as they could possibly furnish. As we have never given any sketch of the local history of the place, we will notice it here. About forty years ago, one Thomas Upham started a small shop which he continued until 1857, when Teasdale & Brown, W. S. Brown being one of the firm, took possession, running it the next six years. The present firm has since carried on the business very successfully, we judge.

At Bath we found two shops, those of Henry Loomis and Merlin Graham. Mr. Loomis made our visit very pleasant; indeed, we found reason to be pleased with our new acquaintances on the score of pecuniary success, as well as that of friendship. A hasty call upon Messrs. Herrick & Seeley and J. Ewing, in Elmira, where we saw some very excellent work, and we went on to Waverly. Here we found one shop—N. Kingley & Co's., Mr. Brooks, one of the firm, doing the amiable—doing a very good business.

Stopping a few minutes in Owego, in the evening, we were so fortunate as to find Mr. John Barry still at his place of business, long after working hours, a very good evidence that he will prove successful as a business man. This gentleman has recently purchased the county (Tioga) right of Curtis' improvement in carriage-top joints and fastenings, which he is using in his own shop with great success. This patent was fully illustrated and described on Page 88, Volume IX. Mr. Barry, who is a live carriage-maker, is getting up some excellent work. The members of the firm of Moore & Ross, it being late, we did not find.

On our way home, we called at Middletown and Paterson, for a few moments. In the former place, which is a very pretty one, we renewed acquaintance with our generous friend, M. H. VanKeuren, Esq. This gentleman not only gave us a brotherly reception, but likewise substantial evidence of his good-will, by securing for us in his vicinity, a number of subscriptions. Here we saw some creditable specimens of work, that ought to bring him success.

The round trip took up ten days, and we have been obliged to briefly describe the account thereof, for the want of space. Under these circumstances, we have been forced to omit much that would have been of interest to our readers, and perhaps may have subjected ourself to censure for having neglected to notice many persons. Should such be the case, we trust they will pardon us, and remember that it is not only a difficult task to write on a subject of this kind, but a very delicate one in which to please everybody.

In this journey, although made at a time when carriage-making should be prosperous, we found it extremely dull in a general sense, the season being backward, with rain almost every day falling in torrents. This kept the roads in a muddy condition which dampened the movements of pleasure-seekers, and almost wholly stopped the sale of new work. When the weather becomes more settled, we shall expect trade to improve, and hope that our anticipations will yet be realized.

TRADES-UNION POLICY.

ONE of the modes in which the advocates of Trades-Unionism hope to accomplish their selfish ends, is by putting a stop to the importation into this country of skilled artizans, so as to make laborers scarce and wages dear. With this object in view, the Labor Congress which met in Chicago last year, took measures for sending a delegate to Europe on this special mission, and there is not an editor enlisted in the professed interest of the working-man, who is not working for the same end. These undertake to tell us that "we have not sufficient work for

our own mechanics," when every man who has been in business for himself the past six years, knows full well that all such assertions are entirely false, and intended only to deceive the public in order to secure thereby certain results—the still further inflation of wages, under the pressure of machinery established by Trades-Unionists. Their opposition to the taking of apprentices in any shop above a limited number, has the like selfish object in view, —the rendering of mechanics scarce, and wages higher. Will any sane man, given to reflection, believe that such advocates have any better motives than selfish aggrandizement? If they do, we are not of the number.

We know too, that some of these noisy leaders in this unholy crusade against what they sneeringly term "capital," professedly ignore all strikes for the advancement of wages, and yet in practice they never hesitate in resorting to such measures, when they imagine there is even a faint hope of success. We need not go abroad for examples. Our own country furnishes ample proof of the damaging effects of combinations in almost every department of trade. Only a few years ago the carriage-makers of Rahway, New Jersey, a place then full of manufactories, undertook in combination, under the influence of Trades-Unionism, to strike for wages beyond that fixed by the natural laws of supply and demand. What was the *natural* result? Why the employers *struck* too; called secret meetings; resolved and re-resolved *not* to pay the prices employees demanded; stubbornness on both sides soon finishing up what folly in the first place had initiated, the complete destruction and ruin of the staple business of that town. This strike took place some time previous to our late civil war, and therefore cannot be justly chargeable to its effects. We could bring forward examples of the damaging effects of Trades-Unionism on business in other professions, but this is altogether unnecessary—the fact is patent in the minds of all business men.

The glib-tongued demagogues who "spout" at public gatherings, or scribble in bad English for the amusement of their followers, tell us that "the better educated portion of American mechanics" are engaged in promoting what they term a reform, or the elevation of the condition of the workingman. We will not stop to question the necessity there may be for this elevation among that class of so-called mechanics, who weekly gather in their appointed conference rooms—no doubt there is need of it—but it is well known to such as have given attention to the subject, that the "better educated portion of *native* American mechanics" as a class, keep away from these meetings, the majority being indifferent workmen of foreign birth and minors, whose highest ambition consists in getting more pay for less work. We have heard of some rich doings in this line that may afford our readers some amusement at a future time.

STRIKING THE STRIKERS.

We have known some cases in which employers met the unjust demands of employees by a strike of their own; but the story we now relate as told to us, is a little ahead of anything in the striking line we have ever heard of.

In a picturesque village on the banks of the noble Hudson, lives an honest and hard-working mechanic—whose name, for obvious reasons, we omit mentioning—who had in his employment a year ago, a number of journeymen, among them a few turbulent and uneasy mortals of the "more pay and less work" order, who being Union-men, duly warned him that on a certain day, unless he increased their wages some twenty per cent., they intended to leave him. Forewarned, he took measures for his own protection. Having thought over the matter, he concluded that he would select out five of his best men, such as had not yet sold themselves to a Union, and offer them the highest wages obtained by the strikers, and steady work for one year, provided they would stick to him and keep on. This the five cheerfully agreed to, while the remainder quit in conformity with an order from headquarters.

But last Autumn wrought a change in the state of "supply and demand," the first being ample, the latter scarce. Under such circumstances, the haughtiness of those exacting Unionists was very much cooled down, especially as they could not find work, and had the prospects of hunger staring them full in the face, so they whiningly went to their despised former employer, and begged of him to set them at work to save themselves and families from famishing. Such a pitiful tale did they pour into his ears, that he took them back again. But at this point came the pinch.

Things seemed to work on very smoothly through the first week, and these strikers began to feel much elated, when lo! the table was turned upon them. Saturday night having come round, the five who had labored all summer faithfully, put their heads together and told their employer very frankly and plainly, that unless he discharged the renegades at once, they would not remain another day. They told him that since the "Unionists would not work alongside of them when business was good, they did not mean to work with them when it was dull." This was strong reasoning, which it was useless to gainsay. The result was, the strikers of the summer had plenty of time to reflect upon their folly through the long winter months, with nothing else to do, and the five faithful ones a good job all winter; a fair specimen of the advantage of striking. We are honest in saying that it is our conviction that no one but the leaders ever gained anything but loss by combinations of this kind, which the duped will probably find out in time.

LITERARY NOTICES.

OUR readers will find *Every Saturday* a capital work to take with them into the country, during their summer recreations, as it is made up of choice selections from the foreign current literature of the day, and the variety is such that all tastes are gratified by the perusal. For the juvenile portion of the family there is not a periodical in all the land equal to *Our Young Folks*, either in letter-press or its illustrations. These are always fresh, spicy and original. The first is published weekly and the last monthly, both by Messrs. Ticknor & Fields, Boston.

AGENCY FOR OUR MAGAZINE.

Mr. John M. Raub, an old friend of this Magazine, who is travelling on a special business of his own, has also in connection therewith, accepted an agency from us in taking subscriptions and advertisements. We recommend him to the confidence of our friends, as a gentleman every way worthy of it. Any business he transacts in our interest, will be recognized and duly honored.

Patent Journal.

AMERICAN INVENTIONS.

March 24. (75,948) CARRIAGE-HUB.—John W. Minor and David P. Ward, New Bedford, Mass.: We claim the collar A', provided with a series of pins upon its face, entering through the elastic disk *e*, and with the tenons formed in the spokes, when said collar is adapted to slide upon the spindle A, as herein described, for the purpose specified.

(75,953) ICE-CARRIAGE.—H. C. Moore (assignor to himself and P. H. Derby), Springfield, Mass.: I claim, *First*, The arrangement of the toothed wheel A with pinion B, and the gear-wheel C operated by lever D, in combination with the hand-wheel F, with pinion G and the rack H, upon the pivoted axle O, substantially as shown and for the purpose set forth. *Second*, The brake, consisting of the vertical rod M and spring L, constructed and arranged as described.

(75,971) SLEIGH.—T. W. Porter (assignor to himself and Charles L. Marston), Boston, Mass.: I claim, *First*, The shaft-hanger, constructed with wrought-iron stays and malleable-iron centre, substantially as described and shown in figs. 1 and 2. *Second*, The tip-socket B, formed separate from the centre A, and to revolve thereon, substantially as and for the purposes specified. *Third*, The hollow pivot *d*, formed upon socket B, substantially as and for the purposes specified. *Fourth*, The incline disk *b*, in combination with the centre A and socket B, substantially as and for the purposes specified. *Fifth*, The tip C, formed with a recess for the shaft D, and to receive the wrought-iron strap *e*, at the lower bolt-hole, substantially in manner as described and shown. *Sixth*, The foot-rail, constructed with brackets, combined with insertable foot-bars, substantially in manner as and for the purposes specified. *Seventh*, The coupling C, when constructed with the recess for standard B, the ears *f f*, and the lip *g*, substantially as described and shown. *Eighth*, Combining, with the wrought-iron stay or brace *d*, the socketed malleable-iron strap or foot C, substantially as described and shown in figs. 5 and 6. *Ninth*, The dash-rail B, formed to extend below the dash-board A, substantially as described and for the purposes specified.

(75,972) EXPRESS WAGON.—T. W. Porter (assignor to himself and Charles L. Marston), Boston, Mass.: I claim, *First*, The rocker and axle-plates *a* and *h*, formed of malleable and white iron, substantially in manner as described and shown. *Second*, The removable disk or die *d*, in combination with the rocker-plate and king-bolt, substantially as and for the purposes specified. *Third*, The combination of packing *g*, cap *f*, and king-bolt *e*, substantially as described and shown. *Fourth*, The lugs *j j*, formed upon the axle and rocker-plates, by which, in combination with wrought-iron straps *k k*, to secure the plates to the axle and rocker. *Fifth*, The tube-plate *n*, substantially as and for the purposes specified. *Sixth*, The pivots *l l*, or their equivalents, formed upon the axle-plate, for the purposes specified. *Seventh*, The pin *m*, or its equivalent, formed upon the axle-plate, for the purposes specified. *Eighth*, The coupling *o*, substantially as described and shown. *Ninth*, The combination of coupling *o*, strap P, bolt *t*, and strap *s*, substantially as and for the purposes specified. *Tenth*, The metallic corrugated or cellular tail-board frame F, substantially as described and shown. *Eleventh*, The strap-eyes *b b b*, formed upon the frame F, substantially in manner as described and shown. *Twelfth*, The chain-eyes *f*, formed upon the frame F, substantially in manner as and for the purposes specified. *Thirteenth*, The skid-brackets *c*, formed upon the frame F, substantially in manner as described and shown. *Fourteenth*, The tail-board adjusting-device, consisting of chains *k'*, ratchet-drums *i'*, pawls *o'*, and the hand-wheel *m'*, or its equivalent, all arranged to operate in manner substantially as described and shown.

(75,973) CARRIAGE.—T. W. Porter and H. K. Porter (assignors to themselves and Charles L. Marston), Boston, Mass.: We claim, *First*, A spring-shackle, formed with the bed-plate A and the three-sided link B, united by the wrought-iron rivet *a*, substantially as described and shown in figs. 1 and 2. *Second*, The stud *c* or its equivalent, formed upon the bed-plate, substantially as described and shown in fig. 2. *Third*, The sides *d d* of link B, formed to extend beyond the bar *e*, and cover the spring-eye, substantially as and for the purposes specified. *Fourth*, The rim *a*, formed upon bar-end B, for the reception of the hanging-iron, substantially as described and shown in figs. 3 and 4. *Fifth*, The socket B, formed to receive the hanging-iron *a*, and the bar A, figs. 5 and 6, substantially as and for the purposes specified. *Sixth*, The hollow metallic hanging-bar A, substantially as described and shown in figs. 7 and 8. *Seventh*, The rims *a a*, formed upon the metallic hanging-bar A, substantially as shown and described in figs. 7 and 8. *Eighth*, Combining the malleable iron yoke A with the wrought-iron stay *d*, substantially as described and shown in fig. 9. *Ninth*, The hollow metallic head-block A, substantially as described and shown in figs. 10 and 11. *Tenth*, The perch-couplings *a*, formed upon the head-block A, substantially as described and shown in figs. 10 and 11. *Eleventh*, Forming the arms *a a* of the pole-crab hollow, substantially as described and shown in fig. 13. *Twelfth*, Forming the pole-strap studs *b b* hollow, substantially as described and shown in figs. 12 and 13.

(75,999) CARRIAGE-SPRING.—W. W. Sutliff, Town Line, Pa.: I claim, *First*, Spring-bars F F, provided with metal plates *a a*, perches D D, arranged in combination with clips E E and bolts *c c*, as and for the purpose set forth. *Second*, The adjustable cross-bars G G, in combination with spring-bars F F. *Third*, The employment of the screw-rods K K, in combination with adjustable cross-bars G G and spring-bars F F, substantially as and for the purpose specified.

March 31. (76,033) CARRIAGE-WHEEL.—Levi Adams, Amherst, Mass.: I claim, *First*, The metallic cone-shaped shield or deflector C, applied or attached to the hub and spokes of the wheel concentric with the hub, substantially in the manner as and for the purpose set forth. *Second*, The combination of the metallic hub A with the box D, arranged substantially as shown and described.

(76,039) DUMPING WAGON.—Harvey Barton, Elyria, Ohio. Ante-dated March 25, 1868: I claim, *First*, The levers N M, links O, and slides J, as arranged, in combination with the bottoms H', in the manner as and for the purpose set forth. *Second*, The hound D, reach G, and yoke F, as arranged, in combination with the brackets E, for the purpose and in the manner set forth.

(76,059) MACHINE FOR BENDING CARRIAGE-CIRCLES.—S. S.

Daniels, Kendallville, Ind.: I claim the combination of the hollow former A, having two or more shoulders *a*1, formed upon its face, clamp C, cam-lever D, slotted and jointed pivoted shaft E, adjustable lever G, and flanged and recessed followers H with each other, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

(76,126) Mode of Setting Wheels on Axles.—M. S. Wilcox, Union Mills, Ind.: I claim, *First*, The bed-piece A and the standards B B′, in combination with the straight-edge and scale D, constructed and operating substantially as and for the purposes described. *Second*, The clamp-hooks *b b*, in combination with the perpendicular standards B B′, as and for the purpose set forth.

(76,183) Thill-Coupling.—George H. Gardner, Philadelphia, Pa.: I claim the thill-iron C, having the eccentric-head F and inclined slot D, in combination with the clip B, united by the bolt *e* and the rubber E, all constructed and arranged as described.

(76,192) Dumping-Wagon.—John Holmes, Johnson, Vt: I claim the arrangement of the levers G, connections F, and springs A, with their offsets C, when constructed, combined and operating as herein described, and for the purpose set forth.

76,198) Thill-Coupling.—Phineas Jones, Newark, N. J.: I claim the combination of the metallic spring *b b*1, formed upon the thill-iron, the sleeve E, and the tightening-bolt C, when arranged and employed substantially as and for the purpose herein set forth.

(76,230) Paint-Brush.—Joseph W. Moore, Cambridgeport, Mass.: I claim the removable screw-top *a*, and the handle C, with a screw-thread, *b*, in combination with wedge B, with its shoulder *c*, all constructed and operating substantially as and for the purpose described.

(76,249) Wagon-Wheel.—P. R. Ridgely, Iron Mountain, Mo.: I claim the rib *b*, when combined with the spoke B and felloe C, in the manner herein shown and for the purpose set forth.

(76,273) Curtain-Fixtures for Carriages, &c.—Charles E. Thompson, New Haven, Conn.: I claim the combination of the metal socket *a* and India-rubber tube *b* with the binding lever *c* H and the springs *d* and B, when they are constructed, arranged, and fitted for use, substantially as herein described and set forth.

April 7. (76,357) Mode of Attaching Shafts to Vehicles.—Smith Thompson, Montgomery County, Md., assignor to S. S. Fahnestock, Washington, D. C.: I claim the jointed bar C, constructed and operated in the manner substantially as shown and described, and for the purpose set forth.

(76,377) Whiffle-tree Hook.—Charles A. Babcock, Frankfort, N. Y., assignor to himself and D. M. Golden, Frankfort, and B. G. Eaton, Mexico, N. Y.: I claim, *First*, The cylinder A, provided with projections *a* and *b* and groove or slot *e*, substantially as and for the purpose set forth. *Second*, In combination with the above, the hook B, substantially as and for the purpose specified.

(76,428) Adjustable Seat for Carriage.—James Fleming (assignor to Gardner and Fleming), Philadelphia, Pa.: I claim the seat G, hung to arms E E hinged to the body of a vehicle, in combination with guides or plates having stops *c c*′, *e e*′, and secured to the body of the vehicle and to the seat, so that the seat is retained in its horizontal position both when adjusted to accommodate the driver and when adjacent to the dasher-board, as described.

(76,466) Draught-Equalizer for Double-Tree.—Robert F. Judson, Kalamazoo, Mich.: I claim the combination of the stay-chains, or wood or leather braces, the curved levers crossing each other, and united by a bolt forming a joint, the iron clevis, with hooks on each side, and near each end of the same, the staple in the clevis, the king-bolt, the staple attaching rear end of clevis to the wagon-pole, the small whiffle-tree, with the wagon-pole, for the purposes set forth and described.

(76,467) Machine for Boring Wagon-Hubs.—Joshua T. Kendall, Concord, N. H.: I claim, *First*, The guide *h*′, in combination with the gauge-arms *e* and *e*′, the set-screws *f* and *f*′, the metallic frame-work *e*′, and the spring *g*, substantially as described. *Second*, The revolving table *k*, with the arms or levers *p p p*, and chucks *r*, and ratchet-wheel *n*, and clamp *s*″, combined and operated as described.

(76,496) Carriage-Pole.—V. N. Mitchell, Concord, N. C.: I claim the improved carriage-pole, formed of two pieces of timber, *a a*, firmly secured together at the front end, and spread and curved downwards at the hind ends, to prevent said pole from coming in contact with the elliptic springs C, when the vehicle is turned, as herein shown and described.

(76,498) Sleigh-Runners, and Mode of Attaching them to the Axles of Vehicles.—J. C. Moore, Madison, Ind.: I claim, *First*, The forked standards D D, with the eyes *a a*, in their upper ends, when used for the purposes and in the manner as specified. *Second*, The step C, when used in combination with the runner A, for the purposes and in the manner as set forth.

(76,524) Wagon-Wheel.—Paris Richardson, Jr., Warren County, Ill.: I claim a wagon-wheel, having a felloe, B, cast of one piece of metal, and a hub, composed of the metal part, F, and cap D, with grooves *h*, and wedge-spindle G, all connected and arranged substantially as and for the purposes set forth.

(76,531) Shaft-Coupling.—Anson Searls, New York, N. Y.: I claim, *First*, A shaft-hook, made eccentric in form, with a bolt-hole through it, and the recess B in the front side, as shown. *Second*, An eccentric cap C, with the recess D, for the purposes set forth. *Third*, The cap C, spring E, cap H, nut F, and bolt *i*, in combination, and in combination with the hook A and pin K, substantially as described, and all for the purposes set forth.

(76,541) Mode of Lubricating Axles.—Jacob L. Sorber, Chillicothe, Ohio: I claim, *First*, The combination of the tubular spindle B C, elevated oil-reservoir D, taps E, ducts F F′, and annular oil-chambers J J′, as and for the purposes specified. *Second*, Providing the inner end of a wheel-hub with the outwardly-flaring sand and mud-guard I, for the purpose described. *Third*, Attaching the bar or block M to the axle in the rear of the collar *a*, for the object explained and set forth.

(76,546) Carriage Bolt.—James Strawn, Plymouth, Mich.: I claim the combination of the clip *c* with the bolt *d*, the latter being loose in the former, as and for the purpose described.

14. (76,605) Sand-Cap for Carriages.—A. O. Coleburn and H. T. Stanard, Wayne, Mich.: We claim the adjustable sand-caps *c h* applied in connection with an axle and hub, as and for the purpose described.

(76,666) Thill-Coupling.—George C. Smith and Roswell Judson, Matteawan, N. Y.: I claim the coupling-strap B, when constructed and used substantially as and for the purpose specified.

(76,667) Bearing for Fifth-Wheel of Carriages.—Simon B. Smith, Salem, N. J., assignor to himself and Joseph K. Chew, same place. Ante-dated March 31, 1868. I claim, *First*, The head-block *a*″, the perch-bearing *a*‴, and the disk *a*′, when cast together in one piece of metal, substantially as and for the purpose described. *Second*, In combination with the combined mechanical devices of the preceding claim, the king-bolt E, when constructed and applied as described and shown, for the purpose specified.

(76,744) Hopper-Attachment for Wagons.—Frank Gerard, Lincoln, Ill.: I claim, *First*, The combination of the hopper B, formed with side-boards *e*, with the wagon-box A, substantially as and for the purpose specified. *Second*, The arrangement of the transverse bar *b*, with reference to the rear end of the box A and the edge or end *c*, of the hopper, substantially as and for the purpose specified. *Third*, The arrangement of the hasps *r*, staples *r*′, and hooks *r**, with reference to each other, and with the triangular side-pieces *e* of the hopper B and the box A, substantially as and for the purpose specified.

HORSE JOCKEY.—*Now there is a horse I can sell you for ten hundred dollars, sound wind and limb, and a stylish driver.*

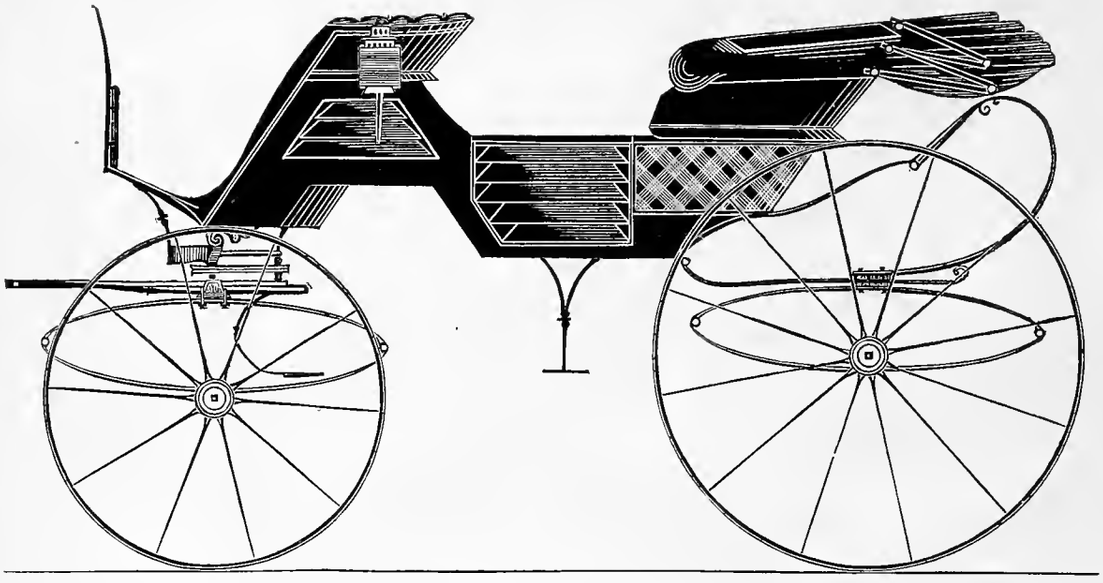
PURCHASER.—*Ah, yes! and how much without the driver?*

CURRENT PRICES FOR CARRIAGE MATERIALS.

CORRECTED MONTHLY FOR THE NEW YORK COACH-MAKER'S MAGAZINE.

NEW YORK,, June 20, 1868.

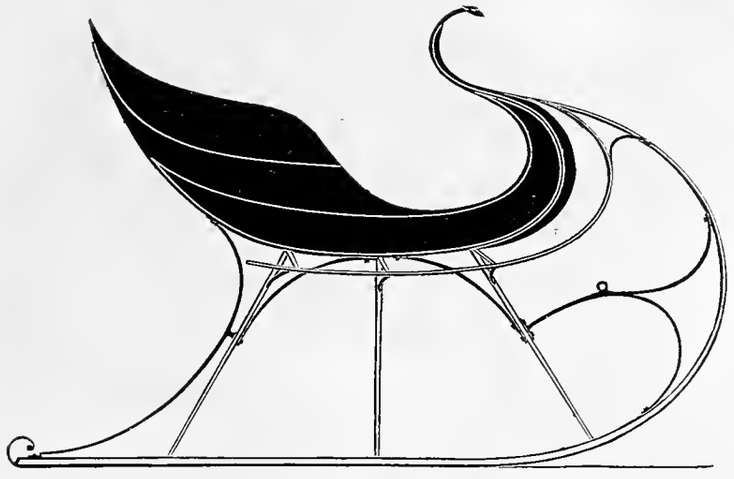
Apron hooks and rings, per gross, $1.25 *a* $1.75.
Axle-clips, according to length, per dozen, 50c. to 80c.
Axles, common (long stock), per ℔, 7 1-2c.
Axles, plain taper, 1 in. and under, $5.50; 1⅛, $6.50; 1¼, $7.50; 1⅜, $9.50; 1½, $10.50.
Do. Swelled taper, 1 in. and under, $7.00; 1⅛, $7.50; 1¼, $8.75; 1⅜, $10.75; 1½, $13.00.
Do. Half pat., 1 in. $10; 1⅛, $11; 1¼, $13; 1⅜, $15.50; 1½, $18.50.
Do. do. Homogeneous steel, ⅝ in., $11.00; ¾, $11; ⅞, $12.00; long drafts, $2.50 extra.
☞ These are prices for first-class axles. Inferior class sold from $1 to $3 less.
Bands, plated rim, 3 in., $1.75; 3 in., $2, larger sizes proportionate.
Do. Mail patent, $3.00 *a* $5.00.
Do. galvanized, 3½ in. and under, $1; larger, $1 *a* $2.
Basket wood imitations, per foot, $1.25.
☞ When sent by express, $2 extra for a lining board to a panel of 12 ft.
Bent poles, each $1.00 to $1.50.
Do. rims, extra hickory, $2.75 to $3.50.
Do. seat rails, 50c. each, or $5.50 per doz.
Do. shafts, $6. to $9. per bundle of 6 pairs.
Bolts, Philadelphia, list. 30 off. Do. T, per 100, $3 *a* $3.50.
Bows, per set, light, $1.00; heavy, $2.00.
Buckles, per grs. ½ in., $1.; ⅝, $1.12; ¾, $1.25; ⅞, $1 75; 1, $2.00.
Buckram, per yard, 20 *a* 25c. Burlap, per yard, 16 *a* 20c.
Buttons, japanned, per paper, 20c.; per large gross, $2.25.
Carriage-parts, buggy, carved, $4.50 *a* $6.
Carpets, Brussels, $1.75 *a* $2.25; velvet, $3 *a* $4.50; oil-cloth, 50 *a* 80c.
Castings, malleable iron, per ℔, 16c.
Clip-kingbolts, each, 40c., or $4.50 per dozen.
Cloths, body, $3.50 *a* $5; lining, $2.50 *a* $3. (See *Enameled.*)
☞ A Union cloth, made expressly for carriages, and warranted not to fade, can be furnished for $2.50 per yard.
Cord, seaming, per ℔, 35c.; netting, per yard, 8c.
Cotelines, per yard, $4 *a* $8.
Curtain frames, per dozen, $1.25 *a* $2.50. Do. rollers, each, $1.50.
Dashes, buggy, $1.75. Door-handles, stiff, $1 *a* $3; coach drop, per pair, $3 *a* $4. Drugget, felt, $2.
Enameled cloth, muslin, 5–4, 40c.; 6–4, 75c.
Enameled Drills, 48 in., 55c.; 5–4, 50c.
Do. Ducks, 50 in., 75c.; 5–4, 70c.; 6–4, 80c.
☞ No quotations for other enameled goods.
Felloe plates, wrought, per lb., all sizes, 20c.
Fifth-wheels, wrought, $1.50 *a* $2.00.
Fringes, festoon, per piece, $2; narrow, per yard, 18c.
Do. silk bullion, per yard, 50c. *a* $1.
Fringes, worsted bullion, 4 in. 28c. *a* 35c.
Do. worsted carpet, per yard, 8c. *a* 15c.
Frogs, 50c. *a* $1 per pair. Glue, per ℔, 25c. *a* 30c.
Hair, picked, per ℔, 40c. to 65c.
Hubs, light, mortised, $1.20; unmortised, $1.—coach, mortised $2. Japan, per gal. $2.75.
Knobs, English, $1.40 *a* $1.50 per gross.
Laces, broad, silk, per yard, 90c. *a* $1.25; narrow, 10c. to 16c.
Do. broad, worsted, per yard, 40c. *a* 50c.
Lamps, coach, $10 *a* $30 per pair.
Lazy-backs, $9 per doz.
Leather, collar, dash, 28c.; split do., 14c. *a* 16c.; No. 1, top, 27c.; No. 2, enameled top, 25c.; enameled Trimming, 26c.; harness, per ℔, 50c.; flap, per foot, 25c.
Moquet, 1½ yards wide, per yard, $8.50.
Moss, per bale, 8c. *a* 15c.
Mouldings, plated, per foot, ¼ in., 14c.; ⅜, 16c. *a* 20c.; ½, lead, door, per piece, 40c.
Nails, lining, silver, per paper, 7c.; ivory, per gross, 50c. Name-plates.
Oils, boiled, per gal., $1.50.
Paints. White lead, ext. $14.00, pure $15.00 per 100 ℔s.; Eng. pat. bl'k, 40c.
Pole-crabs, silver, $5 *a* $12; tips, $1.25 *a* $1.50.
Pole-eyes, (S) No. 1, $2.25; No. 2, $2.40; No. 3, $2.65; No. 4, $4.50 per pr.
Sand paper, per ream, under Nos. 2½ and under, $4.50.
Screws, gimlet, manufacturer's 30 per cent. off printed lists.
Do. ivory headed, per dozen, 50c. per gross, $5.50.
Scrims (for canvassing), 16c. *a* 22c.
Seat-risers, Lincoln's Patent, $2 a pair.
Seats, buggy, pieced rails, $1.75; solid rails, $2.12.
Shaft-jacks (M. S. & S.'s), No. 1, $2.40; 2, $2.60; 3, $3.00.
Shaft-jacks, common, $1 *a* $1.35 per pair.
Do. tips, extra plated, per pair, 25c. *a* 50c.
Silk, curtain, per yard, $2 *a* $3.50.
Slat-irons, wrought, 4 bow, 75c. *a* 90c.; 5 bow, $1.00 per set.
Slides, ivory, white and black, per doz., $12; bone, per doz., $1.50 *a* $2.25; No. 18, $2.75 per doz.
Speaking tubes, each, $10. Spindles, seat, per 100, $1.50 *a* $2.50.
Spring-bars, carved, per pair, $1.75.
Springs, black, 16c.; bright, 18c.; English (tempered), 22c.; Swedes (tempered), 26c.; 1¼ in., 1c. per ℔. extra.
If under 34 in., 2c. per lb. additional.
☞ Two springs for a buggy weigh about 28 lbs. If both 4 plate, 34 to 40 lbs.
Spokes (Best Elizabethport), buggy, ⅞, 1 and 1⅛ in. 9½c. each; 1¼ and 1½ in. 9c. each; 1⅝ in. 10c. each.
☞ For extra hickory the charges are 10c. *a* 12½c. each.
Steel, Farist Steel Co.'s Homogeneous Tire (net prices); 1 x 3–16, and 1 x 1-4, 20 cts.; 7-8 x 1-8 and 7-8 x 3-16, 23 cts.; 3-4 x 1-8, 25 cts.; 3-4 x 1-16, 28 cts.
Steel Tire—best Bessemer—C. V. H. & Co., Agents, the same sizes as above, 5 cents per lb less.
☞ Under no circumstances will bundles be broken to furnish a single set—bundles weigh from 110 to 120 lbs. each.
Stump-joints, per dozen, $1.40 *a* $2. Tacks, 7c. and upwards.
Tassels, holder, per pair, $1 *a* $2; inside, per dozen, $5 *a* $12: acorn trigger, per dozen, $2.25.
Terry, per yard, worsted, $3.50; silk, $8.
Top-props, Thos. Pat, wrought, per set 80c.; capped complete, $1.50.
Do. common, per set, 40c. Do. close-plated nuts and rivets, 75 *a* 80c.
Thread, linen, No. 25, $1.75; 30, $1.85; 35, $1.80.
Do. stitching, No. 10, $1.00; 3, $1.20; 12, $1.35, gold.
Do. Marshall's Machine, 432, $3.25; 532, $3.75; 632, $4, gold.
Tufts, common flat, worsted, per gross, 15c.
Do. heavy black corded, worsted, per gross, $1.
Do. do. do. silk, per gross, $2.c. Do. ball, $1
Turpentine, pr gl., 70c. Twine, tufting, pr ball, 50c.; per ℔, 85 *a* $1.



PARK PHAETON.—½ IN. SCALE.

Engraved expressly for the New York Coach-maker's Magazine.

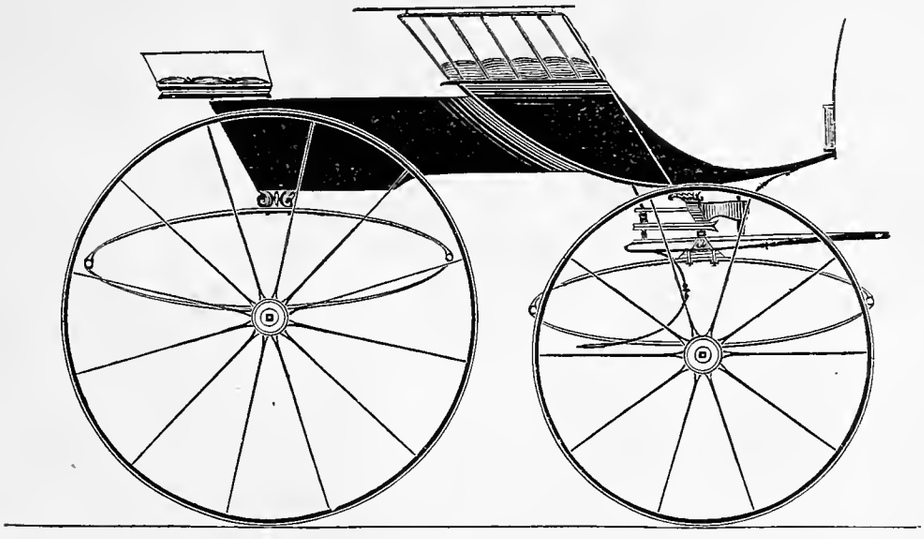
Explained on page 38.



WOODEN FRONT CUTTER SLEIGH.—½ IN. SCALE.

Engraved expressly for the New York Coach-maker's Magazine.

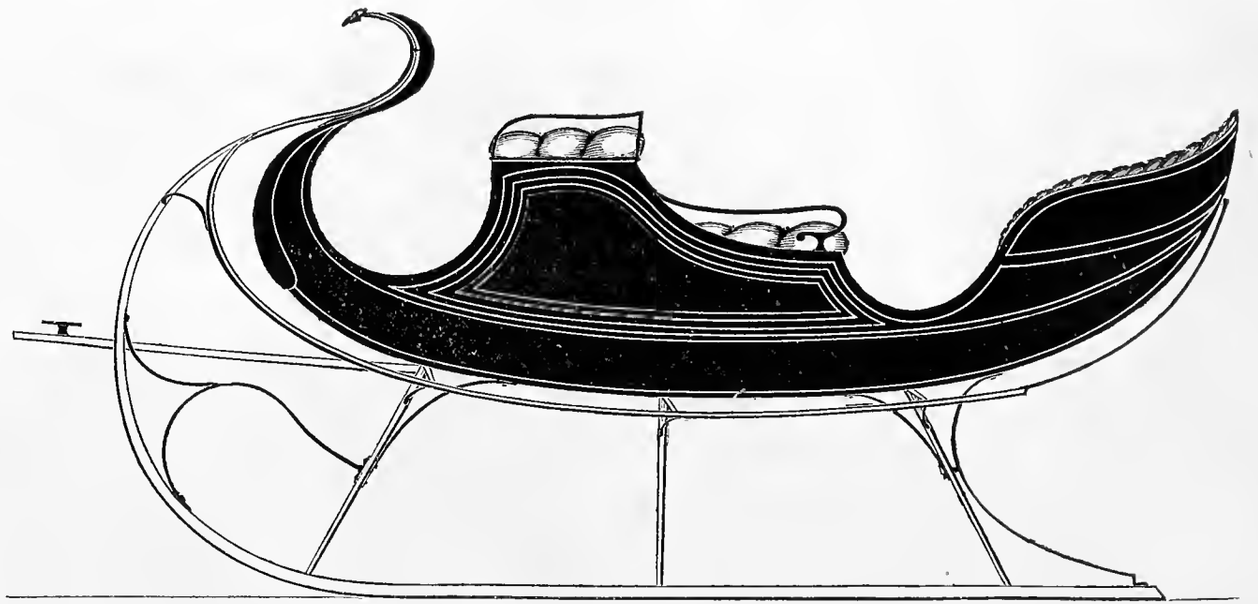
Explained on page 38.



COMBINATION PHAETON.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

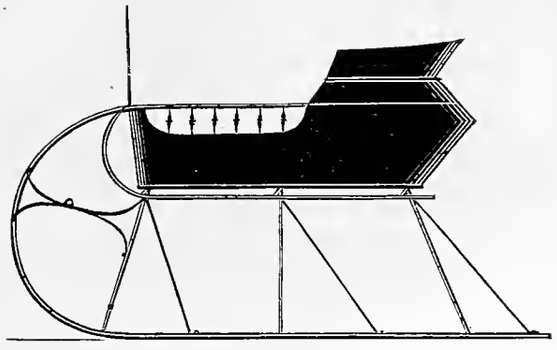
Explained on page 38.



SIX-SEAT FAMILY SLEIGH.—½ IN. SCALE.

Engraved expressly for the New York Coach-maker's Magazine.

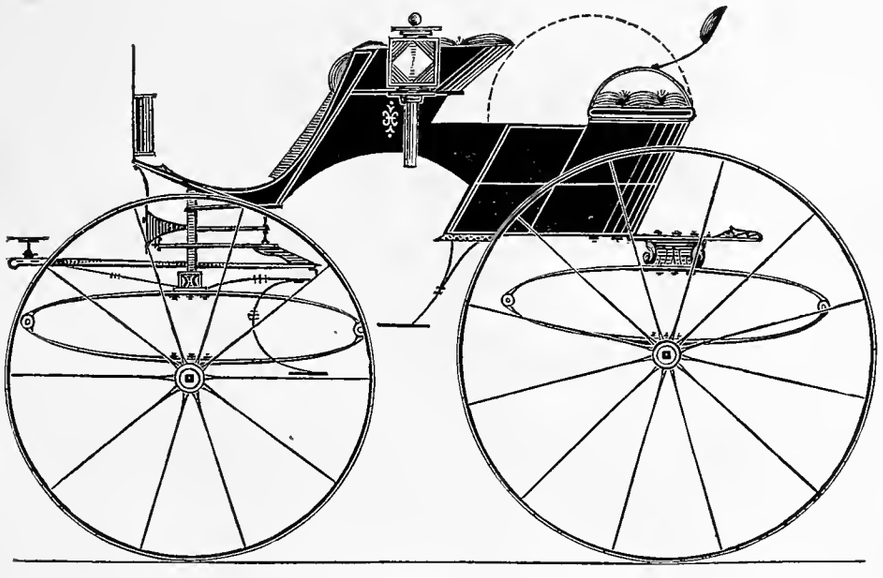
Explained on page 38.



WAGON-BOX PORTLAND SLEIGH.—½ IN. SCALE.

Engraved expressly for the New York Coach-maker's Magazine.

Explained on page 38.



PHAETON, WITH SEAT TO TURN IN.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 38.

DEVOTED TO THE LITERARY, SOCIAL, AND MECHANICAL INTERESTS OF THE CRAFT.

Vol. X. NEW YORK, AUGUST, 1868. No. 3.

Mechanical Literature.

CRITICISM OF THE JURY'S REPORT ON CARRIAGES, IN THE PARIS EXHIBITION.

[We have waited a long time for the official report of the jury on carriages and saddlery in the late Paris Exhibition, but in vain, it not yet having been published in England. Meanwhile we give a translation, made expressly for this Magazine, of an article published in the *Mercure Universel*, which, to say the least, is rather amusing, if not severe, and will no doubt interest our readers.]

It is expected of us to give an account of what has passed in regard to carriages, saddlery, etc., in classes 61 and 62. Truly, the *rôle* of *reporter*, as they say in English, is a delicate and often a difficult thing, if he endeavors faithfully to reproduce what is evident, and above all, when one has the power and opportunity to verify the supreme verdict of a truly exceptional jury (committee), since, contrary to what we see in criminal jurisdictions, the right of appeal is not here tolerated. At the *Palais du Justice* they ordinarily accord twenty-four hours to the unfortunate condemned, to curse their judges! At the Paris Exposition they are more vigorous—no relief or delay is granted, and the indignation, under such circumstances, will remain eternally imprinted on the hearts of those who have been, as they assert, so unjustly repulsed at the *banquet* of National Awards.

One knows—and it is always the common law—that when an individual is author of anything, he is not inclined to bring harm to test the virtue of his offspring.

The owl said to the eagle, "My children are beautiful little creatures, comely and attractive above all their companions."

Truly, gentlemen of the jury, it may well suit you *to find them ugly* and ill-tasting!

From thence the recriminations, the complaints, more or less deep; for, in fine, it is necessary on the part of others to admit that, as impartial as a jury may show itself to be, it is *human;* and man, with his prejudices, his precedents, his weaknesses, sympathies and antipathies, can easily see wrongly, and voluntarily or otherwise, by inadvertency, be honest, having applied his eye sometimes to the small end and sometimes to the large end of the telescope.

Firmly as the jury has pronounced that the *fiat lux* was based solely on "all the merits," it belongs to us to examine if some one of them, nay, if *many*, have not been thrown in the shade, and if one day, as in the Evangelist, the *first* shall be last, etc. etc.

We shall not release our responsibility, upon the justice of any opinion we may form to ourselves; but particularly, and in most cases, we shall be only an echo of others.

Now then, we shall proceed with ease, not forgetting that we walk *per ignes* [through the fire] upon burning coals.

We have received some letters not very flattering to the jury and especially its president. Of that we have nothing to say; a jury is *impersonnel*—it is an abstraction.

It has been said that the national awards comprising the medallions of gold and silver instituted to signalize the merit of objects exhibited, were at times misapplied, or, at least, that the authors of meritorious and ingenious works were slighted, in being simply awarded bronze medallions and "medals of honor." Almost all the exhibitors have thus declined the awards, in protestations, and accusing the jury of having pronounced judgment with the most blameable carelessness. We who are "not in the cause" confess to being in sympathy with the dissatisfied exhibitors, agreeing with them that some injustice has had place in regard to the industrial art and the encouragement of it; it is deplorable.

To those who are ready to say that the awards were *previously* agreed upon—entered in a book *before the exhibition of the objects*—we may explain it by saying, that in several instances, particularly in the class 62, an exhibitor entered in the catalogue, *being absent and not having accepted the place* granted to him, this place was given to *another*, who garnished it with remarkable objects—we love to believe—*and the medallion* was awarded to the *former, who had never occupied the place!* So that some exhibitors have been led to say, that the disorder, and

Entered, according to Act of Congress, in the year 1868, by E. M. Stratton, in the Clerk's Office of the District Court of the United States for the Southern District of New York.

consequent injustice, was caused by some particular grudges of the *President* of the jury. In short, the medallions of gold have been given to great houses in London and Paris; the medallions of silver to some pretty works, which some value more than those who have received the gold ones. As to the bronze medallion, and to the report that certain persons refused to accept it, it has certainly, in a number of instances, been given to works meriting as much as those given the gold medallions. We think it would be humiliating to the former, as well as to the latter, to name them.

There are still eight or nine exhibitors who, I believe, have had nothing at all. This has appeared to them more satisfactory, nevertheless, and they glorify themselves because of it, because, they say, the disdainful forgetfulness of the jury proves it a sort of systematic animadversion, very far from being justified by the appreciation given to certain fortunate laureates.

In short, it illustrates still better the peculiar position of these unfortunate members of the jury, which is composed of two Frenchmen, one Englishman, and one Russian.

It is said they were rich, and assuredly should have been beyond all reach of corruption; but—after the Italian manner, there is always a "*but*,"—some of the most daring say they had friends—that it was necessary to protect the friends (the friends might otherwise be displeased!) Others affirm that the Areopagists of the Exposition were not sufficiently progressive; that they endeavored to confine themselves to what they (gentlemen of the jury) knew—and God alone knows what they knew—and only the most impertinent would dream of departing from the ordinary, long established groove. And the four honorable gentlemen of the jury have succeeded in making them see it well, in bedizening the medallions at their pleasure; for, it is curious to observe, that all that which was the result of an *idea*—all that resembled a *new* conception—was pitilessly put in the "coach-house"—"sent back to the quarry"—as tarnished with the pretentious ridicule of having imagined anything *better!*

It is slippery enough on the *pleasant* side of these recriminations; yet we must confess—and we record it with pain—that nothing has been accorded to a *new* idea, save to a *patented* invention. Those things which have been the most recompensed, in effect, were only old forms, heavy and uncouth, however well established, it must be confessed.

We have spoken only of France; but in England, it was so much worse! Mr. M. W. Thorn, of London, received only a medallion of bronze, and merited as much as Messrs. Peters & Sons. Whilst their *calèche* has eight springs, is very well made, as well as their Broughams, called *coupés à unit ressorts*, which assuredly, all things considered, surpass the English products which have received the medallions of silver, always making reserve for the landau Morgan (open carriage) which has one particular merit, and for those of Messrs. Rock & Sons, which have equally had the silver medal, while with the other countries that has been a little better arranged. As for the rest, the exhibitors were few in number—and then, one knew them less particularly, and the chapter of merits has been less observed! Since in France and in England, there have been *pique nique* banquets organized, so say malicious reports, and those who have not been so fortunate as to be admitted into the charmed circle, have been treated with less favor, or none at all.

That which would give some consistency to this rumor, is the novel manner of particularly recognizing *one's self* in a fellowship a little too *a la pantagruel*, for never before this year, in any preceding Exposition, has there been so many protestations and so much complaining. At the last Exposition, at Bordeaux, something nearly similar occurred, but it was nothing to astonish one, for it was a jury of the same category, which presided—that is to say, the jurors who have lorded it for fifteen years over the Expositions, were at the same time exhibitors, commissioners or members of the jury!

Also, the coach-makers of Bordeaux, to whom none can refuse or deny the exhibition of taste and talent, carried away nothing from the great Exposition, save profound emulation.

Few of the departments have exhibited, and it is to be feared—it is even probable—that in the future there will be still less, if there are any—may it please God! We would not be surprised to see again, as the only exhibitors, the three or four happy ones of 1867—men well known abroad, possessing abundant notoriety.

We suppose this article will be judged, perhaps, as stamped with injustice, and of too bitter criticism. *Eh bien!* They may know, that all I have heard came from most trustworthy sources, and we have only echoed the verdict of others.

It does not suit us—it never pleases us—to gratify passion or any grudge, and we shall not publish biographical notes upon certain members of the examining jury, diverse as they may be, notwithstanding the well known honor of persons' names which would not allow the altering a little the great blessedness which the honorable distinctions cause, for it is the jurors who have received and bear the stars of the honor.

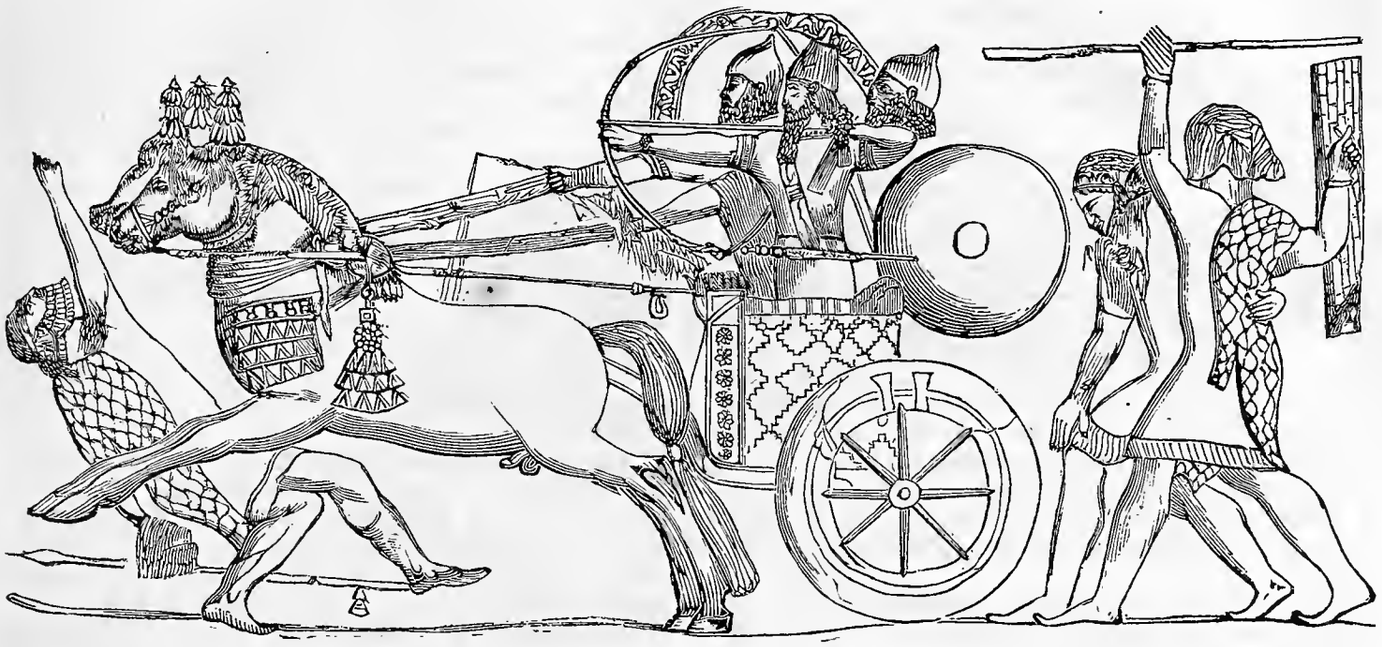
But, let us close; and in order to justify in some sort the complaints which are produced in the two classes of coach-makers, we say that more than 5,000 exhibitors, so we are told, have protested. It is well understood that this relates to the industrial art generally, and that the coach-maker has in this number only his relative part.

Also, we who discourse only upon subjects familiar to us, content ourselves upon having done our duty in our respective roles, without being drawn into publishing some very curious details concerning the awards granted with pompous texts, to some co-operators who exhibited nothing, *only* much care and zeal in sweeping the rooms! Is this not characteristic and singular?

(*Concluded next month.*)

OUR ASSYRIAN CARRIAGE MUSEUM.—III.

A BAS-RELIEF, representing an Assyrian lion hunt in the wilds of Ethiopia, was discovered by Layard, in 1866, among the ruins of a temple at Nineveh. In the chariot represented on the slab stands the king with his charioteer—the monarch in the act of discharging an arrow—drawn by three horses, as that number of heads show, their trappings being much more elaborate than the Egyptian. In this case we find, instead of plumes, large tassels falling on the foreheads of the horses between the eyes, probably considered more appropriate to hunting wild animals than suited to the purpose of warring upon mankind. As in this instance, the bridle usually consisted of a head-stall



ASSYRIAN WARRIORS IN BATTLE—FROM A BAS-RELIEF FOUND AT KHORSABAD.

and strap in three divisions, connected with the bit, with others over the forehead, under the cheeks and behind the ears, and a very large rosette, an ornamental appendage hanging from the saddle just back of the fore shoulders and over them. There is likewise a fanciful compression of the tails of the horses in the center differing from the Egyptian.

The chariot in the example alluded to has a plain panel in the side and a highly ornamented pole, strengthened in the crooked portion by three rings, supported in its place by a brace—probably iron—depending from the upper portion of the body. The body itself is much lower at the back end than it is in front, the back having a singular fixture attached, the use of which is unknown.

Hunting the king of beasts was anciently, as now, evidently considered a dangerous business, for we see in this picture that the huntsman has crowded his quiver full of arrows, and provided himself with a sword, two daggers, and also two hatchets, besides filling his hands with an extra supply of arrows, and a long spear. In this instance we discover that the body is hung in front of the axletree, which is additional evidence of its antiquity. A lion struggling beneath the feet of the horses, pierced with the hunter's arrow, is singularly expressive of agony in death.

In a second example, furnished by Layard, is shown another lion hunt, where the hunter is attacked from the rear of a chariot by the infuriated beast, already wounded, and the charioteer is seen urging on his steeds at a furious rate in order to escape the threatened danger, the lion having planted his fore-paws upon the back end. The king having turned himself about at a critical moment, discharges an arrow at the head of the "monarch of the forest," who, by the position of his tail, shows that he is furious with rage. Just behind the chariot stand two attendants, with shields and daggers, ready to lend their assistance to the sovereign, or to defend themselves should occasion require. Under the feet of the horses lays a lion in the agonies of death, finely depicted.

The lion attacking the sportsman has a singular looking "fixture" in the end of the tail. On this subject Bonomi tells us that "the existence of a claw in the tuft at the end of the lion's tail was disputed for ages," but here in these ancient sculptures is an exaggerated representation of it, in support of this curious fact in natural history. This peculiarity was first recorded by Didymus, of Alexandria, an early commentator on the Iliad, who flourished forty years before the Christian era. Homer and other poets feign that the lion lashes his sides, and Lucan states that he does so to stimulate himself to rage; but not one of these writers adverts to the claw in the tail, although Didymus, who lived one hundred years before the last-named author, discovered it, and conjectured that its purpose was to effect more readily what Lucan ascribes to the tail alone. Whatever may have been the supposed use or intention of this claw, its existence has been placed beyond all dispute by Mr. Bennett, who, at one of the meetings of the Zoological Society of London, in 1852, showed a specimen of it, which was taken from a living animal in the Society's Menagerie.* It is no small gratification to be able now to quote in evidence of the statement of Mr. Bennett and his predecessor, Didymus of Alexandria, this original and authentic document on the authority of the veritable descendants of the renowned hunter himself—a document, too, that any one may read who will take the trouble to examine the slab under consideration.†

The annexed engraving is copied from Botta's great work, the original of which was discovered by him among the ruins of Khorsabad. Although very defective in the original drawing, yet it is the most perfect in his collection in representing the chariot. This is evidently a war chariot, and is drawn by three horses, as the head plumes indicate—although, as usual in Assyrian drawings, they are deficient in the requisite number of legs and heads—in which stand three warriors, the king with his bow strung, a guard holding a shield, and the charioteer. Before the chariot falls a soldier of the enemy's army, who being wounded drops his spear, whilst behind the chariot march

* Proceedings of the Council of the Zoological Society of London, p. 146, 1832.
† Nineveh and its Palaces, p. 246.

two others, from their sheep-skin dress apparently his comrades, one of whom holds in his hand a spear, and in the other a shield. The original slab (Botta, No. 65), forms a portion of the picture taken from the private council chamber in the palace of Khorsabad, probably intended to perpetuate some of the more important events in the king's history. The chariot is less elaborate in its ornamental adornings, being much more simple than is the preceding example, but in other respects it is very much after the same pattern. It is noteworthy that in Assyrian war-chariots the quiver is placed in an upright position at the front end, instead of the slanting condition we have seen them in in the Egyptian examples.

The trappings and harness of the horses at this period differ in several respects from those we have previously given as being more ancient. Three elegant plumes rising high, the one above the other, wave over the horses' heads; arched crests and tassels spreading across the forehead and falling nearly to the eyes, and the harness attached to the yoke is more profusely ornamented with rosettes and fringes, in a simpler and plainer manner. In the earlier examples, as we have so far seen, the tails of the horses are simply bound in the center with ribbons; but as we proceed we shall find that those represented on the bas-reliefs at Kouyunjik are sometimes plaited as in the Persepolitan sculptures, and on the early tombs of Xanthus.

Home Circle.

BREAD-WINNING.

BY MARY A. E. WAGER.

(*Concluded from page* 23.)

The next day gave Mr. Leeds an opportunity to read another chapter, so that at the end of the third day thereafter, he found himself anxious and discontented anywhere outside the reading room, wondering how it would all end, and asking himself if he knew how he really desired it to end.

In his earlier days, he had an ideal woman, who grew to be as real to him as a *bona fide* woman, and by whom he measured all others. She had brown hair and eyes, and was quiet and modest as the bird wife of a robin. She was neither large or tall, but just enough of her to fill his arms and nestle into the tender and affectionate part of her nature. She would always be sweet and tasteful—embroider him bright slippers—sing him pretty little songs at night, and never give cause for jealousy. She would think as he did, simply because he thought so; accepting his dicta and wishes as the Old and New Testament of her life. That a woman should use her brains or capacities to win fame or prestige in any way save by the medium of her husband, was to him very coarse and unwomanly. Women were creatures to be loved and cared for by men, and he never bothered his head about the possibility that there were women with no one to perform that office of protection. He was not unlike most other men in believing himself capable of being the law-giver to every third woman of his acquaintance, to her great temporal and spiritual advantage.

Mr. Leeds believed at one time to have found his ideal personified in the daughter of an American officer residing at Berlin. He pet-named her "Robinette" and she fluttered and sang, and tossed and turned her pretty head just as he believed women should. She made him a smoking cap, because she did so love to have him smoke—it seemed so very manly, and she hated anything womanish about a man! One day, about six months after their acquaintance, he received a note from her saying "she never never could tell him, but she was going to be married to the dearest fellow in all the world, that is if he would'nt feel too bad about it! and would he be so good as to send her some samples of mauve silk? mamma said it would be such a dreadful thing to be an old maid, or to marry a *poor* man! but once again she begged him to accept just a bit of love from his Little Robinette."

He sent the silk, and the bird flew to another nest. Since that time, he had met and passed women with a little sigh for brown eyes, and an increasing admiration for eyes of a more decided color. But all that happened years ago, and ten years makes a man tell a different story.

But this woman a frightened horse had thrown into his arms, was as unlike his ideal woman as it was possible. She had a blue eye, with fire and storm and lightning in it, if the moral atmosphere about her needed such purification. She was tall and straight, and had a way of growing taller "to meet the height of her argument." She was far from being agreeable in the sense of smoothness; shooting such unexpected arrows of criticisms in one's vices and hobbies, that no one ever left her with a very full allotment of self satisfaction. And yet with all her sharp points, she was infinitely preferable to the poulticing and cushioning appliances of ordinary women. And yet under all the impenetrableness of oddness and hardness with which she endeavored to shield herself, he believed there was a woman of the rarest tenderness, and truest womanly feeling. People who were frightened at the pricks she gave them, were too cowardly to ascertain if anything better lay beyond. She was no "Robinette" to be taken with sugar plums, that was evident, but a fort to be taken with only unmerciful storming.

Neither this man or woman, judging from external developments, would have accorded to the other the virtue of amiability, as their daily conversation was but a repeated series of antagonistic sparring, and reached a climax under the following circumstances: Mr. Leeds rode to Lowton one morning for his mail, and asked for letters for Miss Banks. When he returned he went into the parlor, sat down before the fire and deliberately began the reading of his letters, whereupon Irene expressed regret that he had not thought to ask for hers. Mr. Leeds gave no heed to her remark, but after finishing his reading proceeded to draw from his side pocket a number of snowy envelopes, remarking to Miss Banks that "she had quite a correspondence."

"Well, that is a cool proceeding!" she said, holding out her hand, which he seemed not to notice. This increased her impatience, and she said vehemently "my letters, Mr. Leeds."

"Say if you please, Miss Banks."

"I *will not!*" and she got up, walked across the room, trying to bring her feet down with decided vengeance, but was too weak to do it very effectively. "I confess, Mr. Leeds, if *I* were a *man* I would'nt make such a contemptible use of my power; you must *enjoy* the exercise of a

physical strength that the veriest beast in America possesses." As it was only an ironical breeze from the mouth of a woman, Mr. Leeds was not bound to notice it, and did not, if the quiet reading of a newspaper was a proof of it.

Letters were Irene's special weakness, so that this retention of them was next to non-endurance. The clock ticked away, and Mr. Leeds continued to read. Irene collected her thoughts and resolved to test the creature before her with a little feminine philosophy. She would be likely to ascertain if he were "brute or human."

"What was it you asked me to say, Mr. Leeds?" That gentleman looked up, hearing a low voice speak those words, and believed a termagant had been metamorphosed into an angel. He immediately arose, drew her chair near to his own, placed her tenderly in it, and handed her the letters with never a word. After she had finished her reading she said:

"I have good news for you, Mr. Leeds, my brother comes to take me home to-morrow; let me see, I have been here a fortnight, you must have quite a charge posted to my account."

"Yes, quite a list of perversities."

"Then you don't think you've been entertaining an angel unawares?"

"Hardly; what does storm and thunder, sarcasm and strong-mindedness constitute, Miss Banks?"

"Add to it perversity and ugliness, and you will have a fair compound of the woman you took so much pains to restore to the world."

The summons to dinner put an end to this, and it was not until nearly dark that Mr. Leeds again joined her. She was standing in a deep window, looking at the hills beyond, watching the stars come out, and thinking of the very man who came to her and did an unprecedented thing in their mutual history—take her hand, draw it through his arm, and hold it in a firm, gentle way, as if it belonged to him.

"And so you go away to-morrow?" he said.

"Yes."

"Are you strong enough?"

"I think so. You have been very kind; I shall not forget it."

Her manner was so soft and sweet that he looked to see if it was indeed she. Then she was womanly and gentle after all, and so fair and delicate, that it was not strange his arm went about the slender waist, as she was a woman and he a man.

She looked up, at this new change of base, into a face written over with a language her heart could not fail to interpret. She read an old story.

"Irene!" A man speaks so rarely more than once in a lifetime, and then she *heard* an old story, only it was told differently from what any other woman heard it, as she who heard it was different from all other women. She heard him through, and then began to count the obstacles.

"I heard you say you hated sarcastic women, and you have called me sarcastic. Then I'm strongminded too. You hate that. Then I'm ugly. I might scratch your eyes out. And, too, I hate tobacco. You smoke, you know. Then I'm extravagant"——

Something touched her lips to quietness. It might have been another pair, beneath the awning of a moustache. It was certain the succeeding talk had no feminine tone in it.

"Yes, I know, and more. You are self-willed. If you should marry a man no stronger willed than you are, there would be two miserable mortals, because to such a man you would neither love nor obey. You would be a loyal subject only to a man you fully recognized as your king, and at the recognition you would lay aside your armor of sarcasm, strongmindedness, and their adjuncts. Am I not right?"

"You read well, Mr. Leeds. You are the first man I ever knew to get farther than the alphabet," she said, laughingly.

"And you, Irene, what of your reading?"

"Oh, I'm a woman, not supposed to understand what I read! that would be strong-minded!" she replied, archly.

"Very well; be strong-minded then."

"And buy grain?"

"No."

"What, then?"

"Be cared for."

"No man would be so foolhardy as to undertake it."

"Yes, I would. May I try it?"

A dash of her old ways came over her.

"Yes," she said, "provided you can arrange it satisfactorily with my king."

"Your king! Then am I wrong in"——

"Nay," she interrupted, "you have meant all right. But you are tall and strong and brave. I found my king in an humble man in a lowly position, and you could not honor me if I deceived you."

She spoke very kindly, but sadly.

"No, I could not. You are right. Will you tell me where you recognized your sovereign?"

He spoke bitterly, and stood away from her. She made him no reply, and sorrowfully turned away towards the door of her room. As she reached it, she looked back and saw him standing with a look on his face and in his very attitude that was painful to see. She lingered a little, then went back to him, and, laying her hand on his arm, said:

"Say, *if you please!*"

He was a little slow about understanding it, but believing she was mocking him, replied:

"Very well. You give me my own words. Nothing matters much now. Then, 'if you please,' Miss Banks."

"Well, it was about here, I think," she said, placing herself in a chair, "the man was so very humble as to be down here on one knee to let me look at his eyes."

"Yes, and here he is again. Oh, I beg your pardon, Irene dear!"

"Nay, arise! from whom can a king ask pardon?"

"From you—his queen!"

"Then, here, take it. 'Tis the first of the kind I've granted!" and she held up her mouth with the pardon on her sweet lips.

Mr. Leeds returned to Europe a month later and returned early the next May. Then there was a wedding in church, and people said the bridal dress was made in Berlin, and surely nothing had ever equaled it in all that county. As the bridal party passed down the aisle, an old man, with happy tears in his eyes, held out his hand to Irene, and whispered, "This is better than your last summer's work."

"But, Grandfather Day, it all came from that," she whispered in return, with her old love for "carrying her point," as her husband ventured to affirm.

Pen Illustrations of the Drafts.

PARK PHAETON.

Illustrated on Plate IX.

FOR this drawing we are indebted to our esteemed friends, Messrs. Brewster & Co., of Broome St., New York city. There are some decidedly novel features in its composition, which recommends it to the notice of the artisan. The body is not only made up of sham-blind and painted basket-work, presenting to the eye a happy combination of varieties in the finishing, but it is also hung-off with a view to easy riding, by a new and singular arrangement of the springs. It may seem a defect in some minds that it looks heavy, but for the purpose intended, this feature is one of its chief recommendations—a design to make it look aristocratic. Wheels, 3 feet 3 inches, and 4 feet.

WOODEN-FRONT CUTTER SLEIGH.

Illustrated on Plate X.

MESSRS. CURTIS, BOWEN & Co., of Kingston, New York, are the contributors of this beautiful design. There are some original points in its construction worthy of notice. Indeed we might say, without intending to exaggerate, that the design is faultless—probably as perfect as can be. The curve of the runner at the front is thrown well back, a great desideratum in sleigh making, enabling the workman to produce a very light and tasty looking cutter. The first line drawn horizontally on the side of the body, shows a moulding a little projecting; the second an overlapping of the arm panel, which instead of leather is made of wood. Even the wings are wood framed from the projections of the front panel of the ends. There is then no other material used but wood and iron, except for the inside trimming.

COMBINATION PHAETON.

Illustrated on Plate X.

THIS design is from Mr. Channing M. Britton, who has recently returned from a year's study of designing among the coach-builders of Europe. The vehicle is made up of both French cabriolet and English phaeton, an *entente cordial*, not displeasing to the eye, but graceful and tasty. The drawing so well explains itself, that we need not burthen our columns with unnecessary details, further than to say that the wheels which are 3 feet 3 inches, and 4 feet high, should have a hub about 4 x $6\frac{1}{2}$ inches; spokes 1 inch; rims $1\frac{1}{16}$ inch, and tire steel $\frac{3}{16}$ x 1 inch.

SIX SEAT FAMILY SLEIGH.

Illustrated on Plate XXI.

MESSRS. CURTIS, BOWEN & Co., of Kingston, Ulster Co., New York, who are extensively engaged in sleigh, as well as carriage building, have furnished us with the beautifully modeled sleigh we here have the pleasure of introducing to our readers. This kind of sleigh ought to track, say 3 feet 4 inches. The body has very much swell to it, with rounding back corners, although we have not attempted to show such on account of the difficulty we find in presenting it properly in this instance.

The colors in which a sleigh should be painted to look well, are as various as are the opinions of mankind, and therefore a difficult subject to engage in; but we will suggest lake for the body, and vermillion for the under part, each striped in some showy color.

WAGON BOX PORTLAND SLEIGH.

Illustrated on Plate XII.

MESSRS. SHAW & ROSE, No. 832 Broadway, Albany, N. Y., have furnished us with a photograph, from which this sleigh was drawn. This is but one of a great variety built by this house, some of which are unsurpassed, either in design or finish, by any other builders.

PHAETON, WITH SEAT TO TURN IN.

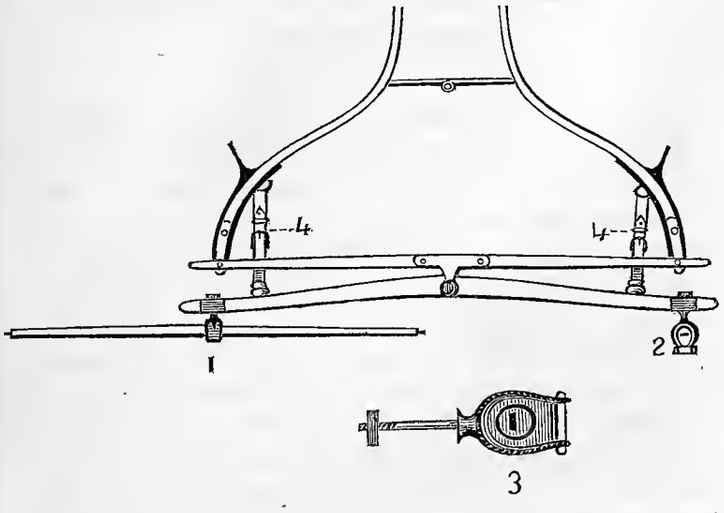
Illustrated on Plate XII.

THIS drawing is original with our artist, and is designed to carry either two or four. As the seats are now placed, it makes a vehicle for four persons, but when the back seat is turned in, the back of the buggy looks like a closed box, the back seat being entirely hidden from view. The squares on the back-quarter are made by mouldings, and should be painted of a different color from that of the body, say lake to conform with the running gear, lake or carmine being the more fashionable color for this kind of vehicle. For the wheels we should use a hub $4\frac{1}{2}$ inches in diameter, and $1\frac{1}{8}$ inch spoke, and 1 inch rim.

Sparks from the Anvil.

ATTACHING WHIFFLE-TREES TO EVENERS.

ATTACHING whiffle-trees to eveners, in the method here shown, is in many respects much better than employing leather braces as substitutes, being more efficient as well as much lighter in appearance. Whiffle-trees hung in this manner always maintain a position horizontal with the evener when in use, and when the carriage is put in the coach house, may be turned up in a perpendicular position, out of the way of everything.



IMPROVED METHOD OF HANGING WHIFFLE-TREES.

1 represents the whiffle-tree in a horizontal position; 2 the same as turned up in a horizontal position; 3 the attachment on an enlarged scale; 4 4 check straps.

CONSIDERATIONS FOR THE SMITH.

No portion of carriage-making requires more care in detail, than the smith's work. The best iron and steel ever made, should be used in all cases, and the most careful manipulation added in order to secure efficiency. These are matters too little heeded, and which neglected are the causes why we find so large a proportion of poor work in the market. It is a wrong idea which some entertain, that by using a low-priced iron in some parts of a carriage, they save something. It cannot be done in either coal or iron, and poor coal, full of sulphur, is dear at any price. For every dollar saved, there are two lost by bad weldings, and defective iron work, in trying to carry out such questionable economy, to say nothing about the depreciation of your reputation for work generally.

The most successful carriage-makers in our times, are such as have given their whole attention to minute, as well as the more prominent details of business, and this too after years of practice. No mechanic need expect to jump into a successful and profitable trade in a year. He must work on in hope, early and late, having every thing done as it should be, every piece of iron perfect and well fitted to its place. It is better to throw aside ten than to use one defective brace, as on this more than anything else depends the reputation of the builder. We have seen the bottom sides of carriage-bodies broken, simply because the smith in fitting the stay to the under side, neglected to do it properly. Instead of having it set *naturally*, close up to the wood, he left it to be fitted in bolting, under which operation there was useless strain, and consequently destruction.

One of the most fruitful sources of complaint visited on the carriage-builder is the bad screwing-up of bolts. It is therefore of the greatest importance that the manufacturer provide himself with an honest and careful "finisher." A man of the right kind in this department, is of full as much necessity as it is to have a good forger. Indeed, the right man in *this* right place, stands often as a safeguard against defective forging, and under some circumstances proves an effectual shield to your good reputation. Should he be careful and see that his irons fit well, are of the proper proportion, *and well put on*, your reputation for building good work is already secured. This done, you will find the way to a fortune.

WELDING COMPOSITION.

For iron or steel or both together, calcine and pulverize together 100 parts of iron or steel filings, 10 sal ammoniac, 6 borax, 5 balsam copaiva or copæiba. One of the pieces is to be heated red, carefully cleaned of scale, the composition is to be spread upon it, and the other pieces applied at a white heat and welded with the hammer.

Paint Room.

CARMINE AND LAKES.

BY PROF. H. DUSSAUCE.

The name of "carmine" is given to the coloring principle extracted from a vegetable or an animal, and the name of "lake" to the combination of that principle with a metallic oxyd, which is generally alumina, oxyd of tin, or oxyd of zinc. Carmine is not a principle chemically pure; it contains variable quantities of substances which accompany it, and some of the reagents used in its preparation.

The lakes which are real salts are not, however, pure chemical products, and it is a fact to be regretted, because then they will always be identical; often the lakes contain the impurities of the carmine, besides others due to a bad preparation. Carmines of madder, cochineal, saffron, etc., are prepared with those substances. In painting they use only the carmine of cochineal and the lakes of madder, cochineal, Fernambucco wood, etc.

Carmine and Lake of Cochineal.—Boil for 20 minutes 25 lbs. of powdered cochineal of good quality in 250 gallons of river water, in which is dissolved one pound of sal-soda; after boiling, throw into the bath 22 ounces of pure alum, stir gently for one minute, then set to rest for about three quarters of an hour. After this time the bath ought to have a fine red color; it is only at that time that the clear liquid ought to be decanted, and after draining off, 20 ounces of cream of tartar are added. Stir quickly for one or two minutes, then precipitate the liquors with eight pounds of glue in jelly, which is equivalent to five ounces of dry isinglass. That quantity is usually sufficient to precipitate the carmine; but if not quite sufficient add glue by small portions until all the carmine is separated; let it settle, then decant the clear liquor, throw the precipitate on a filtering cloth, and, when sufficiently drained, spread it on porcelain plates and dry it in the shade at a gentle heat.

The residuum of 25 lbs. of cochineal, which have been used to prepare the carmine, are treated to exhaust the coloring matter it contains; for this purpose it is boiled three times, for half an hour, in 75 gallons of water, containing each time one pound of crystals of soda. The liquors are mixed with the decanted waters from the carmine, then are precipitated with the solution of tin

(Dyer's spirits) to obtain a scarlet lake. In the case where carminated lake is wanted, pour into the liquor first a solution of alum, then a solution of crystals of soda; alumina is precipitated and at the same time combines with the coloring matter; the richness in color of the lake depends upon the quantity of alumina employed.

After the precipitation the lake is washed two or three times with clear water, collected on a filtering cloth, and dried at a gentle heat in the dark.

Lake of Madder.—A carmine of madder for painting can be obtained in the following manner:—The madder is put to ferment and washed, then poured in four times its weight of sulphuric acid, at 55° Baume; the acid must be perfectly free from nitrous acid. The mixture is made in a level vessel surrounded with cold water; all precaution must be taken to avoid an elevation of temperatures. A paste is thus obtained which is left to itself for three hours, then dilute it with five parts of water. Filter through coarse powdered glass and dilute with a large quantity of pure water. By means of that dilution the coloring matter becomes insoluble and is precipitated. That fine color is composed for the greater part of *alizarine*.

To prepare a lake of madder the following process is employed:—The madder is washed, purified, so as to separate the sugar and gummy matters: the water used to wash is acidulated so as to avoid a loss of coloring matter. This done, it is treated by ten times its weight in a solution of alum (alum 1, water 10), the decoction is then heated to the boiling point and boiled from 15 to 20 minutes.

The liquor is filtered through a coarse cloth. Let the temperature to lower down at 100° Fahr., add crystals of soda in the proportion of 12 to 15 per cent. of the weight of the alum used, and boil; the color forms and deposits. This process is not absolute, for each manufacturer has his own. To sum up, the process consist to dissolve the coloring principle by means of a solution of alum which is the best solvent.

Wood Lake.—The lake of red wood is prepared by making a strong decoction of Fernambucco, and diluting in that liquor a mixture of chalk and alum with starch; the amylaceous matter combines with the sub-sulphate of alumina, which fixes the coloring matter. It is, as we see, a lake containing foreign substances.

The lake "Ball of Venice" is prepared by stirring a mixture of gelatine and alumina in Jelly in a decoction of Brazil-wood; alumina brightens its color, soap gives it a violet shade.

The preparation of the yellow lake of wood is the same as that of the red lake; dilute pure chalk in water, add to it one-fifth of its weight of finely powdered alum; sulphate of lime and sub-sulphate of alumina are thus obtained, and while this precipitate is yet in suspension add to it a strong decoction of wood, let it settle and decant, collect the precipitate in a filtering cloth, and dry it on trochestis in the shade.

Color of the Buckthorn.—"Chinese Green" (*Lokao*). —The process followed in China for the preparation of that fine color is the following:—Make a decoction of Buckthorn bark, add to it a little potash and alum, and pass through it cotton cloths, which combine with the coloring principle. An exposition to the sun developes the green; and by repeated immersions in the bath, followed by expositions to the sun, the tissue receives of it as much as it can retain; then it is washed in clean water; the excess of coloring matter falls in the water. Put into a kettle the liquid containing the coloring matter in suspension, and dip into this boiling liquor skeins of cotton which combine with the color. The colored threads are passed through cold and clear water, and the green is detached by rubbing. It collects on the bottom of the vessel.

It is filtered on paper, and dried at a gentle heat in the shade; then it is exposed to the sun. The coloring matter separates from the paper, and has the form of lamina with a blue or greenish reflection.

The "Bladder Green," by its origin, is of the same kind as the *lo-kao*. To prepare it, Buckthorn berries before being ripe are used; their juice is extracted by pressing the crude or crooked berries, and adding to it either two or three per cent. of its weight of alum, partially dissolved, or 25 to 30 per cent. of lime in a state of milk; evaporate to a soapy consistency, and introduce it into bladders, which are dried in the air in a dark place.

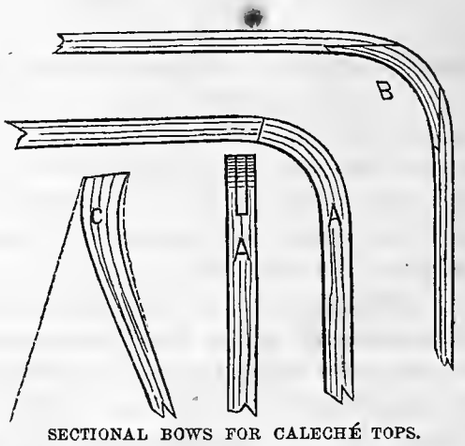
The yellow berries (French and Persian) belong to the family of the buckthorns. The first is used to obtain the *stil-de-grain*—a yellow lake prepared in the usual manner; that is, by precipitating a decoction of berries by a mixture of chalk and alum. That lake is not often found genuine in the trade; it is generally a mixture of several yellows. The Persian berry gives a lake of a yellow that is finer than the product of the French.

There are many other varieties of lakes; but they are of little importance in painting, and are chiefly used in calico-printing. The above are the most generally employed in industry.

Trimming Room.

MADE BOWS FOR CALECHÈ TOPS.

THE bows for the heads of barouches or calechès, should in all cases be made, not bent, as these when bent can never be made to keep their original form, when subjected to wear or the elements. This every practical workman well knows.

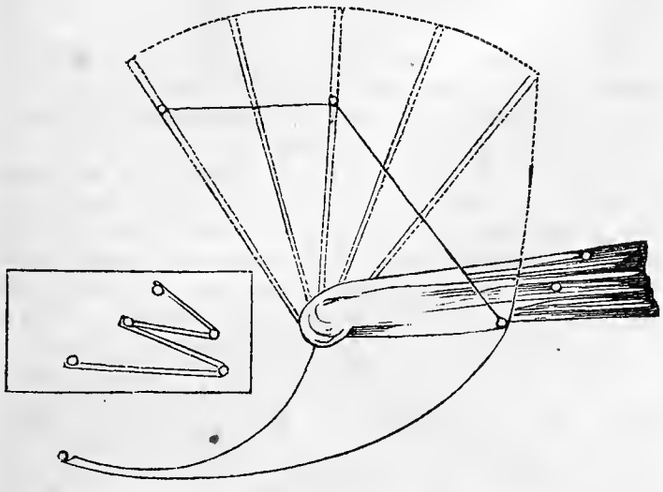


SECTIONAL BOWS FOR CALECHÉ TOPS.

The drawings accompanying this article show the proper mode of splicing out the bows. The sections A, show both front and side view of the front bow. B presents us with the manner of splicing out the four other bows in the top at the corners. C represents a side view of the back bow, which must have in it sufficient curve to meet the necessities of the top (head) and back lines.

DRAFTING TOP JOINTS.

VARIOUS modes of getting the size and shape for top joints are in practice, but among them all there is none more simple and exact than the one here illustrated.



SIMPLE MODE OF DRAFTING CARRIAGE TOP JOINTS.

Having set the bows and drawn on the leather, next secure the prop-irons to the bows, with screws, then (with the nuts all off) place strings as in the drawing to show the length. This done, next throw the top entirely down. While in this position, having previously chalked the inside surface of the square board shown in the diagram, afterwards press it against *the ends* of the props so as to leave the prints thereof on the board. On this board, with the lengths of the joints determined by the strings, and the pivots fixed by the three *impressions* on the board, you can, by dropping or raising the knuckle ends at the right hand, make them to suit any fancy or taste. This plan, simple as it is, is followed by one of the best manufacturing houses in New York. Will anybody show us a better one?

Editor's Work-bench.

INTERNATIONAL UNIONISM DYING OUT.

ONE who merely looks at the surface of affairs naturally concludes that the machinery of International Trades-Unionism is in the very best working order, well oiled and in good repair. But an inside view which we have been favored with, shows that the screws are very loose, and the wheels out of gear. The Journal which was established to elevate labor and reform the world, no longer flaunts its impudent flag over a *disorganized* community, threatening vengeance to all obstinate employers, but is now displaying a flag of truce, in hope thereby to gain time for recuperation and probably a renewal of the battle, under better auspices. The great orator of the Union, after a vain struggle with his "hale-fellow well-met," for the proprietorship of the organ, has from peddling varnish, gone back to his paint-pot. The six dollars voted themselves in Cincinnati last year, being *non est* in consequence of hard times and our opposition, the great "central power" has "gone in," each "subordinate" being left to take care of itself, which is found a hard task, if we may judge from the loud calls made through the public prints for the delinquent members to step up to the captain's office and settle. Many of the most noisy and troublesome members having failed in voting themselves "less work and more pay," have been discharged, and finding it more difficult to get a new situation than they had anticipated, at their regular trade, have engaged in other occupations, to the great relief of *weak-kneed* bosses, and a sympathizing public. Indeed the whole thing is about run into the ground, and would soon be entirely if the proprietors of the manufactories would only put a stop to canvassing among their employees, by those who have been the most active, the past three years, in making trouble for them. The specious plea that Unionism is no longer the hobby of the proprietor, is rendered farcical, when it is known that the editor and publisher is the same individual who has for years "held the bag," and directed affairs for the association. The chief difference is, he no longer gets six dollars each from "the boys," nor is he able through secret organizations to add to his subscription list as formerly. This he has now to do in person, assisted by some local member, whose former activity in the Union cause stamps his individuality, and renders him a fitting agent in the business. Will the proprietors of the shops allow this much longer? If they do, they will forfeit their liberty, and deserve to have somebody put in charge of their business to conduct it for them—Unionists though they be.

ANOTHER WESTERN VISIT.

SCARCELY had the ink dried in our pen after narrating a former visit, before we were off again on another to our friends. This time we took the New Jersey Central Railroad, stopping at various places on the way, among them Somerville, Raritan, Easton, Bethlehem, Allentown, Reading, Lebanon and Harrisburg. As we have on former occasions given space to details in regard to these shops, we omit going over them again, and shall merely note a few changes. A new shop has been built in Harrisburgh, in which Messrs. Vance, Holoch & Whiteside have established themselves with fair prospects of success. We are glad of this, as there was cause for fearing that carriage-making was on the decline there, the only shop of any note previously existing being that of our friend W. W. Boyer. We hope that our friends in the place will in future secure *all* the home trade, and not let other cities out-do them.

From Harrisburg we ran down to Mechanicsburg, and Carlisle, in both which places we were satisfactorily successful in our mission. In each we found three shops. Messrs. Schroeder & Son, in Mechanicsburg, have one

of the finest manufactories in this section of country, and judging from what we saw of their carriages, make a creditable class of work. Just across the street we found Mr. John Palmer, in the same business. This gentleman has recently patented an improvement in carriage tops, which consists in placing a sectional covering of rubber tube over the lower prop-iron, which when the top is down prevents the wearing away of the back-bow from friction, in driving over uneven roads. This he claims (which undoubtedly it is) to be a great improvement.

Returning *via* Harrisburg, we visited York, Baltimore, Washington, Wilmington and Philadelphia. In all these cities we now have more subscribers than we had last year, but the changes have not been sufficient to call for notice. On the way home we visited the pleasant cities of Trenton and Burlington. In the former place we only had time to make a brief call upon Mr. Richard Sutphen, formerly in business with a brother in Somerville; and in the latter upon S. White, the only shop left. Formerly there were three shops of some importance in Burlington, but from some unexplained cause, trade has been declining for some time past. We think, however, that an enterprising young man with a little capital, and a good stock of practical knowledge, added to some energy, would do well. There appears to be wealth enough there to support at least one good shop. We have been thus brief for lack of space in this issue.

CARRIAGE-MAKING IN ALBANY, N. Y.

On a recent visit to Albany, in a conversation with the venerable James Goold, who is now about 75 years of age, we learned some facts in regard to carriage-making there which we shall now give for the benefit of future historians.

When, in 1813, our informant took up his residence in the city, he found in the carriage business Joseph Thinkell, in a very small shop, situated on the corner of Broadway and Quincy Streets, about opposite the present steamboat landing; John Epps, and Robinson & Vanderbilt. This last firm went out of business somewhere about 1850. Epps employed about a dozen men in all, and Robinson & Vanderbilt twelve or fifteen, and were conceded to be the leading firm down to 1830. At later periods Gardiner & Selkirk, Kingsbury & Whitehead, Peter Winne, Long & Silsbury, Hubbell & Johnson, Hugh McDonald, and a few lesser firms, entered into business with more or less success. At the time when Mr. G. commenced business —which he did with only a boy assistant—the work chiefly built was long-bodied wagons hung on elliptic springs *made of wood*, and a few hacks.

Post-coaches came into use in 1817, during the Presidency of James Munroe, giving considerable impetus to business here. These, originally an English institution, were greatly improved upon in this country. The attachment of rack and boot, made to "swing" with the body, originated in Salem, Massachusetts. The experiment of using the English post-coach body, on platform springs, in opposition to the American improvement, was tried in Baltimore about this period, and failed. Hale's patent was secured in 18—. Mr. Butterfield, whose name has since been known in connection with some of the most successful express enterprises of our day, used to run post-coaches, in connection with steamboats, from Albany to Ballston and Saratoga, which were generally crowded with passengers for those celebrated watering places. But the railroads killed the business. One of these post-coaches could then be bought for from $450 to $500. At one period the manufacture was largely carried on in Albany, but afterwards monopolized by Troy, where at the head, in 1820, Orsamus Eaton stood conspicuous. Chapman, at Northampton, in Massachusetts, was another famous early builder. These, however, have since all passed away.

VISIT TO THE HOME AND TOMB OF WASHINGTON.

When we were in the city of Washington, in June last, through the persuasion of our friend, R. H. Graham, Esq., we were induced to remain over a day longer and visit Mount Vernon. A simple use of our friend's name introduced us at once to Captain Thomas Stackpole, and the best attentions of himself and officers on the steamer Arrow. To the Captain, whose urbanity and kindness made the visit all that we could desire, we here tender our best thanks, and take great pleasure in thus being able to recommend himself and boat to the patronage of our readers.

The day on which our visit was undertaken was one of nature's loveliest, scarcely a ripple disturbing the surface of the beautiful Potomac, only

> "The waters spread
> One broad, unbroken mirror, all around,"

our comfort being greatly increased by a select and sociable company of *compagnons du voyage*. Among the number we found General George R. Smith, of Sedalia, Missouri, whose patriotic bearing and intelligent conversation, recommend his society to all true American hearts. The little company of visitors was made up of pilgrims from almost every point of the compass, all animated with the same spirit—genuine patriotism.

The passage from Washington to Mount Vernon occupies—including intermediate landings on the river—about two hours, the visitor being allowed about the same number in which to ramble through the grounds. After landing on the dock, a short walk up a wild and narrow footpath takes the visitor to the sacred enclosure where sleeps,

in a marble sarcophagus,—"Martha, the wife of Washington, occupying another at his right,"—the hero whose

> "Illustrious shade, the muse would fain essay
> Her humble tribute to his worth to pay;
> With trembling hand amid his laurels twine
> A wreath of roses round his hallowed shrine;
> Fain would her lyre to notes sublimer raise,
> To sing his virtues and record his praise;
> Yet midst his various worth, his talents rare,
> The brilliant deeds that mark his great career,
> Where shall we fix amidst that field of light?
> The splendid how select, when all is bright?"

The new vault, built of brick, with a grated door in front, is located at the foot of the "Vineyard Inclosure," according to the expressed will of Washington, in which he says he desires his "remains, and those of my deceased relatives (now in the old vault), and such others of my family as may choose to be entombed there, may be deposited." Over the entrance to the tomb is inscribed: "Within this enclosure rest the remains of Gen. George Washington." And with him *rests* about the last of greatness in the family. It is said that John A. Washington, who with characteristic meanness went off with the southern rebels a few years ago, and was slain, refused on a certain occasion to let his colored servant sell to a suffering visitor a glass of water from the General's well, and made him pour it upon the ground, telling the visitor to go to the river and drink! Of such stuff rebels are made! Around the vault are located other tombs to the memory of departed members and relatives, which our space forbids us mentioning.

A short distance from the tomb stands the family mansion, with the butler and gardener's houses, in very good condition. The flower garden—Mrs. Washington is said to have been a great lover of flowers—walled around with brick, still blooms with roses in profusion, but, like everything else, is under the ban of prohibition from the ladies who now have the whole matter in their charge. It was hard to believe, however, that the same boxwood and flowers graced the grounds now as in Washington's day, although such was strenuously maintained by the *cicerones* in attendance. Another enclosure at the south was appropriated to vegetables for his family use. This, likewise, is enclosed by a brick wall.

On entering the mansion one feels that a century looks down upon him. In one corner of the north room stands an antiquated "harpsichord, a wedding present from Gen. Washington to Ellinor Custis;" in another, the wooden tripod used by the hero in his surveys, and near by the holsters and other relics of his Revolutionary campaigns. In the southern wing, on the second floor, looking down the Potomac, is the room where the greatest hero of earth fell a victim to the all-conqueror! In the old-fashioned fire-place still stands, as of yore, an iron fire-back, half burnt out. What a commentary on life! We are told by an intelligent yonng colored man on the grounds, that two relics of the General's family, each over one hundred years old, still survive. Their names are Alfred and Dick Jeslar, now residing in the forests of Fairfax county, about ten miles distant.

In the General's *old* brick barn, near by, we saw a *new* Virginia sleigh, made last winter. In originality it takes everything down we have ever seen in that line. We only regret we had not time to secure a sketch for the edification of the reader. But the steamboat bell rings, rings, rings, and we have only a moment's time to quaff a draught of water-patriotism from the well which Washington "digged" before departing. Would that *this* water had had better effect upon some of his successors; then should we have a different state of things now. But, thank Heaven, patriotism still lives in the great heart of the commonwealth. May the fire never die out!

ONE OF THE BEAUTIES OF TRADES-UNIONISM.

Some time since the carriage-makers of Wilmington, Del., were favored with an epistle something like this: "Sir, please take notice, that should you have in your employ more than one apprentice to three journeymen, it will be considered a matter for grievance on the part of your employees, and might be resisted by a strike." As such a note finds circulation in a city where the "editor" of the organ "does not fear to encounter that prejudice caused *on account of his record in the cause of trades-unionism*," even if that record be one of denunciation of the shortcomings of those from whom he derives a material support," we suppose *our* sympathy for the Wilmington friends, on account of the above *infliction*, would all be "thrown away" were we to show any. We therefore merely present facts for some future historian, and there rest.

OUR ADVERTISERS.

There are some things we have no relish for: among these is the disposition some have of inordinate "puffing." The editor who allows himself to be the instrument in such imprudent business, must dismiss every principle of honesty, and "go in," to the fullest extent, with increased laudation for every new comer. This renders him a mere tool to imposition, and the laughing-stock of his readers. No one, therefore, must expect our agency in any such business. We may, however, respectfully call the attention of our readers to certain cards to be found in our pages, with advantage to both buyer and seller. Among the newer ones, we notice an old and reliable house in Syracuse—that of Messrs. Olmstead & Jones—who keep on hand a general stock of carriage and saddlery material; that of Messrs. Hayden & Letchworth,

at Auburn, where will be found a general assortment at lowest cash prices; and the Bending Works of McDougal & Co., Geneva. The attention of our friends in Western New York is invited to these establishments, not only because they are reliable houses, but because in patronizing them they will be aiding us in our war upon agrarianism.

There are two houses in Albany whose cards may be read with profit. These are, Messrs. Woodward & Hill, and Taylor, Hamlin & Co.'s. They both are prepared to furnish any article the trade may require, either in hardware, bent stock or trimmings, at as reasonable prices as elsewhere.

Our friends in Maryland will of course—when visiting Baltimore—call upon Messrs. Mackenzie Brothers, 222 Baltimore Street; John Curlett, Son & Norris, 33 North Street, and R. B. Porter & Son, 78 W. Pratt Street. These all deal in "carriage goods," and are reliable firms with which it is pleasant to deal.

Those in the vicinity of Wilmington, Delaware, and the dealers who want axles, will not fail to read the card of our friends, Messrs. Carswell & Vandenbraak, whose personal attention, given to this special branch of business, ensures a reliable article at the lowest possible price. Besides this we have, on the second page of our cover, the advertisements of four axle and spring manufactories in Bridgeport, Conn., and another axle manufactory in Newark, N. J., all houses of good repute. Please read for yourselves.

EDITORIAL CHIPS AND SHAVINGS.

NEW YORK COACH PAINTERS' WITHDRAWAL.—The New York coach painters met on the 7th of July, and formally withdrew from the Coach-maker's International Union, with which it is said to have formerly "amalgamated," being now once more a separate and independent organization. We said it had *formally* withdrawn, meaning by this that so far as the Union in this city was concerned, very few other than painters ever joined it, and these were mostly Irishmen, rendering it scarcely necessary, except in form, to take even the step they now have. Having paid in their monthly dues of $1, and adopted a new constitution and by-laws, in a hurried manner, with a very slim attendance, the society adjourned. This movement is another indication, showing that the International Coach-makers' Union is "gone up."

THE STRUGGLE FOR EIGHT HOURS.—For more than two weeks (this is written on the fifteenth of July), the journeymen bricklayers of New York city have been on a strike, caused by the refusal of the bosses to recognize eight hours as a day's work. The men have heretofore been receiving five dollars a day, but now offer to work for four and a half, providing employers will call eight hours a day. As nobody believes this offer is anything more than a ruse to accomplish certain ends, and then afterwards demand the old price, it has been without success thus far. The employers having formed themselves into a Union, and resolved to fight the matter out "on that line if it takes all summer," are now setting Germans to work, in place of Irishmen as heretofore, and advertising throughout the country for men, which course will undoubtedly crowd the strikers out of employment, and probably out of work for the entire season. As the matter now stands, it is difficult to foresee which will win, but time will tell.

BEARDING THE LION.—An exchange complains that the proprietors of two carriage manufactories in Albany, N. Y., would not allow him to canvass their factories. In this matter they doubtless acted wisely, for the visitor has for some three years been doing all he possibly could "to play the mischief" among the journeymen of the country, by advocating Trades-Unionism, and now by stopping him they are only taking the best means to silence their most inveterate enemy. Would others do the same, they would only be *protecting* themselves.

STATISTICS OF BRITISH LABOR.—The working classes of Great Britain have a reserved fund amounting to five hundred and eighty millions divided among co-operative associations, trade societies, building associations, savings banks, and friendly and benevolent societies. With the exception of about seventy millions employed in co-operative and building operations, this immense capital is mostly invested in English Government securities, yielding two and a half per cent. per annum. If the owners had but the knowledge and the legal right to use this immense fund, what a power it would exercise over trade.

POWER OF A HORSE'S SCENT.—A horseman writes:—There is one perception which a horse possesses to which little attention has been paid, and that is the power of scent. With some horses it is acute, as with the dog; and for the benefit of those who have to drive at night, such as physicians and others, this knowledge is invaluable. I never knew it to fail, and I have ridden hundreds of miles on dark nights, and in consideration of this power of scent this is my simple advice: Never check your horse at night, but give him a free head, and you may rest assured that he will never get off the road, and will carry you expeditiously and safe. In regard to the power of scent in a horse, I once knew one of a pair that was stolen and recovered mainly by the track being made out by its mate, and that after he had been absent six or eight hours.

HORSES' FEET REQUIRE MOISTURE.—Nine-tenths of the diseases which happen to the hoofs and ankles of horses are occasioned by standing on the dry plank floors of the stable. Many persons seem to think, from the way they keep their horses, that the foot of the horse was never made for moisture, and that, if possible, it would be beneficial if they had cowhide boots to put on every time they went out. Nature designed the foot for moist ground—the earth of the woods and the valleys—at the same time that a covering was given to protect it from stones and stumps.

INDIA RUBBER CARRIAGES.—A company has been organized in Bridgeport, Conn., for the purpose of manufacturing carriage bodies, under the title of "The Hard Rubber Wood Company." A buggy of their manufacture has been sent to this city, the body of which is made of one piece of rubber, one-eighth of an inch thick, having neither bolts nor screws, and is perfectly smooth; not liable to become soiled by handling. The whole buggy weighs only about 125 pounds. The running gear of this

buggy is wood, but the company intend hereafter to make them of rubber. The material, which is first subjected to a temperature of 300 degrees, in a plastic or dough-like mass, is expected to resist the effects of water, cold or heat alike. The fifteen stockholders who have organized in Bridgeport, are reported to have started with a capital of $250,000.

Co-operation under Deliberation.—In an uptown hall, a few evenings since, a company of sages had under deliberation the question, "Can a lot be obtained by co-operation for $150, that is worth $250 or $300." This being a problem beyond the power of any shrewd dealer in real estate, single handed, to solve, at the present time, we await with much curiosity the final decision of these modern solons.

Public Vehicles of Paris.—The number of public vehicles now in the streets of Paris is given as follows:—Common cabs, 2,967; *remise*, or superior cabs, 3,533; *grand remise*, or carriages for hire by the day, week or month, 2,000; omnibuses, 678; omnibuses belonging to the railway companies, 140; vans (licensed) 800; omnibuses running to the suburbs of the city, 230; total, 10,348. During the time of the Exhibition, there were three thousand more vehicles in the city; the vans alone at one moment amounted to 2,300. Of the cabs, common and *remise*, 2,793 belong to a company, and 3,707 to private masters who number in Paris nearly a thousand; of these, six hundred probably are possessed only of the one cab, which they drive themselves. The largest private establishment does not possess more than sixty or seventy cabs. In 1853, there were not more than 1,580 ordinary cabs, 2,400 *remises*, 600 superior carriages for hire, and 340 omnibuses. In 1864, before the business was thrown open, the cab company had between 2,400 and 2,500 vehicles, and private owners 2,043 *remise*, and only 64 ordinary cabs. Since the change in the law, the numbers, it will be seen, have increased to the extent of 1,800. In order to be able to drive a cab, or any other public vehicle, it is necessary to be provided with a certificate from the Prefecture of Police; the number of drivers at present inscribed on the police list is 25,000. During the last twenty years, the system of charges for public vehicles has been changed half-a-dozen times. The tariff at present in operation does not give satisfaction; and it is said that the plan of charging according to the distance passed over, which has been for a considerable time under consideration, will be adopted very shortly.

Velocipedes vs. Horses.—According to the *Pall Mall Gazette*, velocipedes are becoming formidable rivals to the horses in Paris. One velocipedist (it has been found necessary to invent the word) rolled through the Champs Elysees the other day in an "Americaine," drawn by two velocipedes, on which were mounted two postilions or jockeys. M. de Visin, a distinguished equestrian, who rode over the steeple-chase course of the Bois de Bologne a fortnight ago without touching his horse's bridle, has made a match with Prince Achille Murat, in which M. de Visin, on a velocipede, backs himself against the Prince on horseback. M. de Visin, a few weeks ago, undertook to travel on a velocipede from Angiers to Paris, and actually went as far as Tours, a distance of about fifty-four miles, when the machine broke.

London Public and Public Omnibuses.—In London, where street cars have not yet been generally adopted, there is now great complaint against the bad omnibuses of the chief omnibus company of the metropolis. With few exceptions, the accommodation is so stinted, says the *Builder*, as to be really indecent; and the vehicles are either close and stuffy on the one hand, or on the other are ventilated from wide and gaping apertures behind the horses and drivers, sweeping the foul air from without through the omnibus like wind through a funnel along the heads of the passengers, and causing neuralgic attacks, more especially among elderly people, from which they may suffer for weeks from a single exposure to such stupid and ignorant arrangements. There are a few exceptions; some of the omnibuses being large and roomy, as well as more sensibly arranged as to ventilation. The company now threaten to withdraw these for larger 'busses, on pretence that the public avoid them,—a very unlikely thing, unless there be some special reason, such as a preference for other companies who have not given cause of offence to the public. The fact of three horses being required for their omnibuses, while the stuffy little herring boxes of the old sort require only two, though carrying not far short of the same number of passengers, seems to be a much more probable explanation of the threatened withdrawal of the only few decent vehicles, than the actual avoidance of these latter by the London public.

Patent Journal.

AMERICAN INVENTIONS.

April 14. (76,762) Coach-Pad.—Benjamin F. Hooper, Newark, N. J.: I claim the metal sides *b*, and body-piece *d*, constructed and arranged substantially as herein shown and described.

(76,814) Propelling Vehicles.—Thomas Rhoads, Fiskilwa, Ill.: I claim *First*, The arrangement with relation to the revolving shaft L, carrying the wheels A′, of the wheels G H J, pinion *b*, and spring S, as herein described, for the purpose specified. *Second*, The pawl *h*, pivoted to the frame D, when connected to the lower end of the pivoted lever *e*, whereby it is made to engage with the ratchet-drum E, when said lever is drawn back to the extent of its vibration, as herein described, for the purpose specified. *Third*, The brake-lever *d*, in combination with the ratchet-drum E, pivoted lever E, and pawl *h*, as herein described, for the purpose specified. *Fourth*, The combination and arrangement of the gearing G H J, pinion *b*, spring S, ratchet-drum E, lever *e*, pawl *h*, brake *d*, all operating as described, for the purpose specified.

(76,818) Hub for Wagon-Wheel.—William H. Rodeheaver, Miamisburg, Ohio: I claim the arrangement of the pair of bands B C, enclosed in a wooden hub, and being provided with flanges D E, and interlocked lugs *d e*, the whole being secured by rivets, in the manner and for the purpose set forth.

(76,852) Lamp for Vehicle.—Charles F. Waldron, New York, N. Y.: I claim, *First*, The annular internal plate C, formed with the flanch *b*, in combination with the lower portion or edge of the body A, substantially as and for the purpose herein set forth. *Second*, The annular nut D, in combination with the base-shell B, and internal plate C, substantially as and for the purpose specified.

21. (76,877) Sleigh.—Alonzo Armstrong and Alexander Weller, Buffalo, N. Y.: We claim the combination of the curved reach H with the pendent links, hangers, and elevated standards for supporting the sleigh-body upon the rear bob.

(76,899) Machine for Forming Fifth-Wheel.—George Feightner, Wooster, Ohio: I claim, *First*, The removable rings

D D, in combination with the platform A and adjustable cam-lever E, substantially as and for the purpose set forth. *Second*, In combination with the above, the slotted brace F and screws G G, when used as set forth, for the purpose of retaining the fifth-wheel in place while undergoing its formation.

(76,900) WRENCH FOR CARRIAGE-WHEEL.—Levi B. Fisk, Lockport, N. Y.: I claim a hand-wrench combining the forks C C and socket B in a single device, when employed in connection with the hub-holes F F, the whole arranged and operating in the manner and for the purpose herein described.

(76,906) CONVERTIBLE CARRIAGE-POLE.—Francis Fowler, West Haven, Conn.: I claim the attachment of removable poles by means of the shifting-rods D D, which slide either way along the metallic cross-bar A A.

(76,959) SHIFTING-RAIL FOR CARRIAGE-SEATS.—Samuel Toomey, Wilmot, Ohio: I claim the projection G, on the under side of the bracket *a*, at the inner edge of the mortise, in combination with the gib C and wedge *d*, substantially as and for the purpose herein specified. Also, in combination with the gib and wedge-fastening at the front, the square hook-tenons *g g*, and shoulder *f*, bearing with a spring pressure upon the brackets *b b*, substantially as and for the purpose herein set forth.

(76,978) WHIFFLE-TREE HOOK.—Francis W. Beckwith, assignor to himself and Smith, Clark & Co., Westmoreland, N. Y.: I claim the circular spring-band *a*, held against the end of the thimble by the bead *g* and the tongue *h*, having the projection *i* pivoted between the lugs *m*, all constructed, arranged and operating as described, whereby the spring is compressed at each outward and inward movement of the tongue, and the latter held either open or closed by the outward expansion of said spring, as herein described, for the purpose specified.

(76,984) THILL-COUPLING.—Charles S. Bonney, Penn Yan, N. Y.: I claim, *First*, The construction and arrangement of the parts A D and screw E, when made and used as and for the purpose set forth. *Second*, The part B, with the channel H, to prevent the screw E from turning, when made and applied to the part A, substantially as herein specified.

(77,002) METHOD OF TIGHTENING TIRES.—S. W. Corbin, assignor to himself and J. B. Sands, Vallonia Springs, N. Y.: I claim, *First*, Tightening the tire, having one end secured in the felloes by means of the block C formed upon the opposite end of the tire, having an inclined side, J, the rebated slot E in the felloe, the T-shaped block F, block G, and plate D, all constructed, arranged and operating as herein shown and described. *Second*, The slot E and blocks F and G, and plate or strap D, substantially as and for the purposes set forth.

(77,023) CARRIAGE-SEAT.—H. H. Forbes and H. C. Sears, New Bedford, Mass.: We claim, in combination with the seat of a carriage, the pivoted, crossed, and clamped legs, arranged to operate substantially as and for the purpose described.

(77,049) MODE OF ATTACHING WHIP-SOCKETS.—J. W. Kelley, Cleveland, Ohio: I claim the hooks C, loops D, key D, as arranged, in combination with the socket A, for the purpose and in the manner substantially as set forth.

(77,132) CARRIAGE-COUPLING.—Ira Van Pelt and John S. Van Pelt, Petersburg, Va.: We claim the combination of the sliding pivoted swingle-tree E with the chains I, J J, axle C, and bolster G, substantially as and for the purposes specified.

(77,137) MACHINE FOR BORING HUBS.—John W. Walters, Riceville, Iowa: I claim the combination of the two shafts A K, the latter having the crown-gear wheel G, tubular shaft H, box B, adjustable cutter E, having the pinion F, all operating as described for the purpose specified.

(77,147) CARRIAGE-HUB.—Martin Whelan, New Haven, Conn.: I claim the plate C, provided with the arms or lugs *a*, combined with the hub A and spokes B and the plate D, when the whole are constructed and united, substantially in the manner herein set forth.

28. (77,162) CARRIAGE-LOCK.—John A. Bower, Middlefield, Ohio: I claim in the brakes for carriages, the levers B B, hinged heads E E, springs J J, and rods G G, as arranged in combination with the thills A A, in the manner and for the purpose substantially as set forth.

(77,185) MODE OF ATTACHING AXLES TO VEHICLES.—William Gray and Henry E. Porter, Hebron, Conn.: We claim, *First*, As an improved mode of manufacture, a device for securing together the forward axle and rocker of a vehicle. *Second*, The combination of the plate B, having a round flange, D, plate F, with a corresponding round-flange recess and plate G F, which encloses and allows the flange D to work closely and freely therein, by means of the segmental portion H of said plate, and the projections K, for griping the rocker A and axle E, substantially as and for the purpose described.

(77,190) WAGON BRAKE.—Smith S. Henderson, North Cohocton, N. Y.: I claim, *First*, The arrangement and combination of the wagon-tongue or pole I, bent metal bar H, chain F, roller G, and slide-bar E, to connect with the brake-bar D, for operating in the manner herein described. *Second*, The brake-blocks *c c* and *a a*, hinged together with slotted straps *e e*, as constructed and secured to the hinged brake-bar D, the same being connected by levers *d d* with the slide E, by a plate-hinge, *f*, so as to adjust the pressure of the brakes to the wheels, substantially as and for the purposes set forth.

(77,196) CHECK-BRACE FOR CARRIAGE.—Isaac D. Johnson, M.D., Kennett Square, Pa.: I claim the combination of the two braces B B, their attachment to the upper half of the springs or spring-bars E E, the braces A and C, and the flexible plate B, all constructed, arranged, and employed in the manner and for the purpose herein shown and described.

(77,220) ATTACHING WHEELS TO AXLES.—George W. Sawin, Nashua, N. H.: I claim the combination of the latches E E with the hub A and ring H, made substantially as described, and for the purpose set forth.

(77,395) FORWARD GEAR FOR CARRIAGES.—John J. D. Meincke, Milwaukee, Wis.: I claim draught irons C C and bottom and top-piece D and E, in combination with king-bolt F, substantially as described.

(77,397) WINDOW-HOLDER FOR CARRIAGES.—J. H. Moore and William Johnston, New Haven, Conn., assignors to Henry Hale & Co., same place: We claim the arrangement of the two parts, D and D, hinged to and combined with the holder A, the whole constructed in the manner substantially as herein described.

(77,399) PACKING FOR CARRIAGE SHACKLE.—F. B. Morse, New Haven, Conn. I claim the packing herein described, as an article of manufacture, and consisting of block E, with the projections F and lip *f* as set forth.

(77,411) LOCK-NUT FOR AXLE AND SKEIN-BOXES.—Joseph R. Smith, Bethel, Conn., assignor to himself and Winfield S. Shaw, Buffalo, N. Y.: I claim, *First*, The internal lip on the nut, and the external lip on the axle or skein-box, to secure the nut on the axle or box, as set forth. *Second*, The combination of the key F with the spring-catch and the intervening lips of the nut and axle, as and for the purpose specified.

May 5. (77,467) WAGON-BRAKE.—Claude Ducreux, New York, N. Y.: I claim the adjustable rings C C on the hubs of the wagon-wheels, when provided with lugs *b b*, in combination with the oscillating bar D, having lugs *d*, all arranged and operating substantially as herein shown and described.

(77,500) FARM-WAGON.—Charles Mahan, Grand Island, Cal.: I claim, *First*, The frame consisting of the cross-pieces J J' and central rail K, as arranged, in combination with the box I, axle-tree D, wheels C, and reach H, in the manner and for the purpose substantially as set forth. *Second*, The sliding-hook A', when constructed in the manner and for the purpose specified. *Third*, The box A, when the sides of said box are provided with cleats C', notches *b*, and spring-catches *c*, in the manner and for the purpose set forth.

(77,528) KING-BOLT FOR CARRIAGE.—John Reiber and John Schrader, Bridgeport, Ill., assignors to themselves and W. M. Lewis, same place: We claim, *First*, The jointed bolt *d*, in combination with the clip B and head-block *d*, substantially as and for the purpose shown and described. *Second*, The brace D, having joint *b* in combination with the clip B, jointed king-bolt *d*, axle A, and coupling E, all substantially as and for the purpose shown and described.

(77,531) CARRIAGE-STEP SCREEN.—A. Q. Ross, Cleves, Ohio: I claim the carriage-step screen B, operated by means of bars and spring, or cord and pulleys, or by other equivalent manner, by means of the carriage-door, substantially as and for the purposes above set forth.

(77,568) METAL HUB.—William W. Ball, Edinburg, Ind.: I claim the annular flanges B B, made tapering from the hub to their edges, and cast of one piece with the hub, in such a manner as to form springs that are contractible, and made to firmly secure the spokes by the bolts C, as specified.

(77,575) DRAUGHT AND SHAFT-TUG.—Henry Bowers, Albany, N. Y.: I claim, *First*, The shaft-clasp B, substantially as shown and described. *Second*, The tug A, substantially as shown, and for the purpose set forth. *Third*, The combination of shaft-tug A with saddle F, breast-collar G, and shaft C, substantially as and for the purpose set forth.

CONGRESSIONAL DELEGATE TO THE N. Y. SCHUTZENFEST.

(77,585) SKEIN AND BOX FOR AXLES.—Greville E. Clarke, Racine, Wis.: I claim the skein B, having a recess on its under part filled with box-metal, C, and provided with a groove, *x*, and tongue, and used in combination with the box D, as constructed, and the rod E connected through the axle, as specified, all constructed and used substantially as set forth.

(77,626) SHAFT-COUPLING.—James Lamb, Aurora, Ind.: I claim the movable taper *d* and movable socket *e*, secured between the arms C C, and used in combination with the straight bolt E, thill F, and clips B B, substantially as set forth.

(77,656) WAGON SKEIN.—Charles F. Ravn, Milwaukee, Wis.: I claim skein B, centre-iron D, bolt E, linchpin F, nut G, and cap H, in combination, substantially as and for the purpose described.

(77,680) MODE OF CONSTRUCTING CARRIAGE-WHEEL.—Samuel Toomey, Wilmot, Ohio: I claim the method of constructing bent-rim carriage-wheels, with the ends of the rim abutting together, and with spaces between the rim and the shoulders of the spokes, before putting on the tire, and then closing the rim and spoke-shoulders together by the shrinking on of the tire, substantially as and for the purpose herein specified.

(77,687) SHAFT-ATTACHMENT TO WAGONS.—Walter Ward, Mount Holly, N. J.: I claim a carriage-shaft, or thill-connection or coupling, made of the pieces A, B, C, D, interlocked or breaking joint with each other, and firmly united, so that the shaft or thills cannot become detached, substantially as herein described and represented.

(77,692) DUMPING-SLED.—E. R. Whitney, Plattsburgh, N. Y.: I claim, *First*, The sliding bars B, when used in combination with a cord, F, for the purpose of elevating the front part of a body, D, of a sled or wagon, and operated as and for the purpose specified. *Second*, Operating a dumping-body, D, by means of the same team which draws the same, without detaching and reattaching said team, substantially as and for the purpose specified. *Third*, The arrangement of the posts C, pulleys *h* and *j*, with the cords F, when operated by means of sliding bars B, as and for the purpose herein set forth.

May 12. (77,754) WAGON-LOCK.—Charles Noethlich, Muscatine, Iowa: I claim the arrangement and construction of the angular lever G G, link F, and pivoted pawl D, in combination with the bevel-toothed rack A, and vibrating-lever B B, the arrangement of the whole being such that the pivot *c* can be thrown to the right or left of the line *x x*, and when in one position the pawl will be firmly locked without the aid of the auxiliary stop, and when in the other position, the pawl will be unlocked, all substantially in the manner described and shown.

(77,769) SHAFT-COUPLING FOR CARRIAGES.—Anson Searls, New York, N. Y.: I claim, *First*, The shaft-hook A, with a recess, C, in the back part of it, and hole for bolt I, as set forth. *Second*, The curved T-head bolt I, for the purposes described. *Third*, The combination of the bolt I, spring K, washer J, and nut E, in combination with the hook A and pin B, substantially as described, and all for the purposes set forth.

(77,782) KING-BOLT FOR WAGON.—John J. Waldron, East Durham, N. Y., assignor to himself, Timothy G. Palmer, and Henry Brown. I claim the socket *l*, projecting downwards from the plate *f*, that unites the perch *e* and bolster or head-block *d*, in combination with the king-bolt *i*, that enters, at its upper part, said socket *l*, and is retained by the nut *o* above said plate *f*, as and for the purposes specified.

(77,785) MODE OF ATTACHING HUBS TO AXLES.—James Weathers, Greensburg, Indiana.: I claim the thimble B and skein E, cast of one piece, the former provided with a flange *h*, and secured to the axle A by means of the bolt *f* and rod *g*, all combined, arranged, and used substantially as specified.

(77,791) SEAT FOR VEHICLES.—L. W. Wolfe, Jacksonville, Ill.: I claim the arrangement of the seat A with the hollow concavo-convex metallic corners, B B, as herein described, all constructed and used substantially as set forth.

CURRENT PRICES FOR CARRIAGE MATERIALS.

CORRECTED MONTHLY FOR THE NEW YORK COACH-MAKER'S MAGAZINE.

New York,, July 20, 1868.

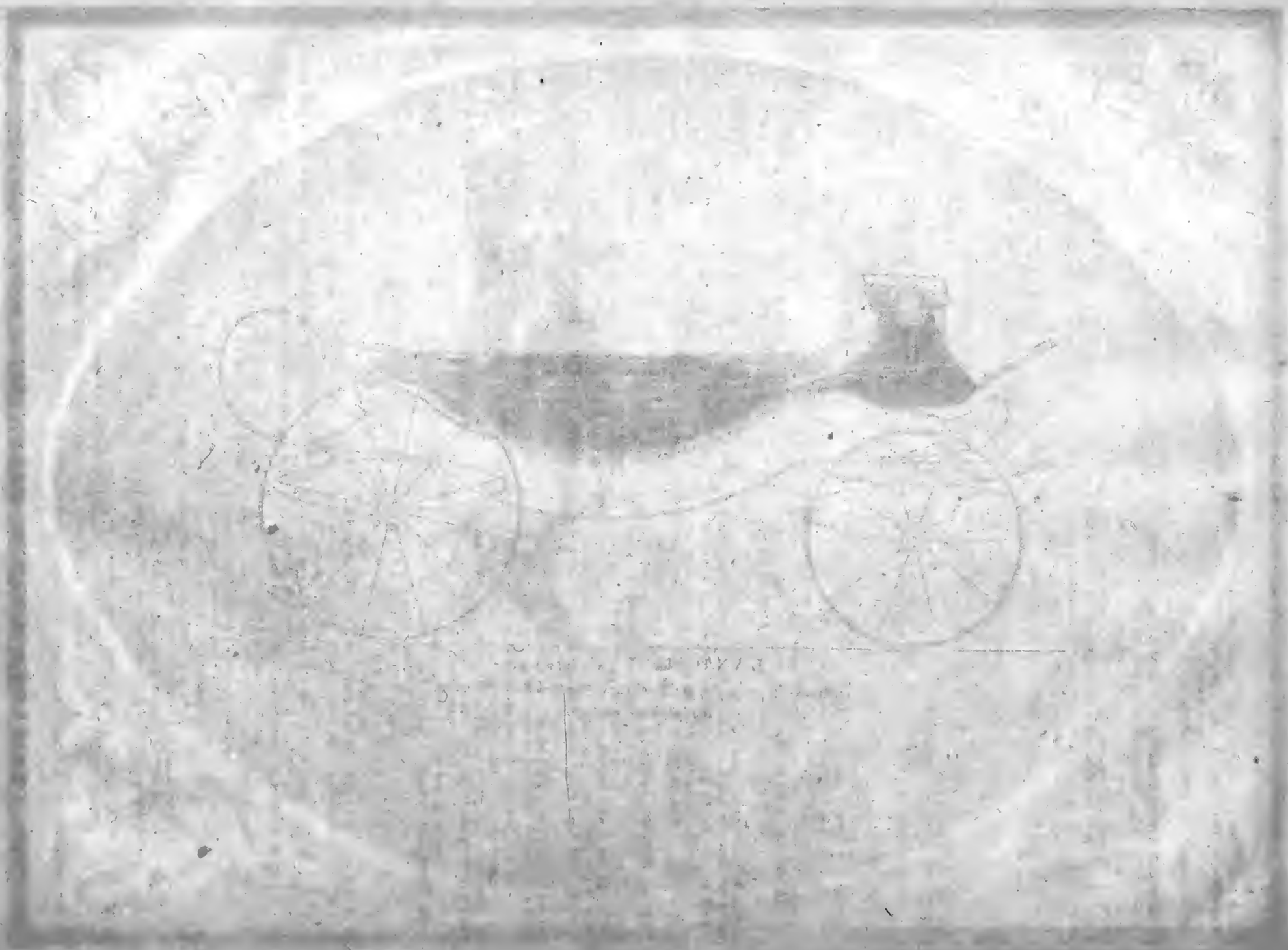
Apron hooks and rings, per gross, $1.25 *a* $1.75.
Axle-clips, according to length, per dozen, 50c. to 80c.
Axles, common (long stock), per lb, 7 1-2c.
Axles, plain taper, 1 in. and under, $5.50; 1⅛, $6.50; 1¼, $7.50; 1⅜, $9.50; 1½, $10.50.
Do. Swelled taper, 1 in. and under, $7.00; 1⅛, $7.50; 1¼, $8.75; 1⅜, $10.75; 1½, $13.00.
Do. Half pat., 1 in. $10; 1⅛, $11; 1¼, $13; 1⅜, $15.50; 1½, $18.50.
Do. do. Homogeneous steel, ⅞ in., $11.00; ¾, $11; ⅞, $12.00; long drafts, $2.50 extra.
☞ These are prices for first-class axles. Inferior class sold from $1 to $3 less.
Bands, plated rim, 3 in., $1.75; 3 in., $2, larger sizes proportionate.
Do. Mail patent, $3.00 *a* $5.00.
Do. galvanized, 3½ in. and under, $1; larger, $1 *a* $2.
Bent poles, each $1.00 to $1.50.
Do. rims, extra hickory, $2.75 to $3.50.
Do. seat rails, 50c. each, or $5.50 per doz.
Do. shafts, $6 to $9 per bundle of 6 pairs.
Bolts, Philadelphia, list. 30 off.
Do. T, per 100, $3 *a* $3.50.
Bows, per set, light, $1.00; heavy, $2.00.
Buckles, per grs. ½ in., $1[1], ⅝, $1.12; ¾, $1.25; ⅞, $1 75; 1, $2.00.
Buckram, per yard, 18 *a* 23c.
Burlap, per yard, 14 *a* 16c.
Buttons, japanned, per paper, 20c.; per large gross, $2.25.
Carriage-parts, buggy, carved, $4.50 *a* $6.
Carpets, Brussels, $1.75 *a* $2; velvet, $2.65 *a* $4; oil-cloth, 45 *a* 70c.
Castings, malleable iron, per lb, 16c.
Clip-kingbolts, each, 40c., or $4.50 per dozen.
Cloths, body, $3.50 *a* $5; lining, $2.50 *a* $3. (See *Enameled.*)
☞ A Union cloth, made expressly for carriages, and warranted not to fade, can be furnished for $2.50 per yard.
Cord, seaming, per lb, 35c.; netting, per yard, 8c.
Cotelines, per yard, $4 *a* $8.
Curtain frames, per dozen, $1.25 *a* $2.50.
Do. rollers, each, $1.50.
Damask, German cotton, double width, per piece, $15 *a* $22.
Dashes, buggy, $1.75.
Door-handles, stiff, $1 *a* $3; coach drop, per pair, $3 *a* $4.
Drugget, felt, $1.75 *a* $2.
Enameled cloth, muslin, 5-4, 40c.; 6-4, 75c.
Enameled Drills, 48 in., 55c.; 5-4, 50c.
Do. Ducks, 50 in., 75c.; 5–4, 70c.; 6–4, 80c.
☞ No quotations for other enameled goods.
Felloe plates, wrought, per lb., all sizes, 20c.
Felloes (Rims), $1.50 *a* $3.
Fifth-wheels, wrought, $1.50 *a* $2.00.
Fringes, festoon, per piece, $2; narrow, per yard, 18c.
☞ For a buggy-top two pieces are required, and sometimes three.
Do. silk bullion, per yard, 50c. *a* $1.
Do. worsted bullion, 4 in., 35c.
Do. worsted carpet, per yard, 8c. *a* 15c.
Frogs, 50c. *a* $1 per pair.
Glue, per lb, 25c. *a* 30c.
Hair, picked, per lb, 40c. to 65c.
Hubs, light, mortised, $1.20; unmortised, $1. Coach, mortised, $2.
Japan, per gal., $2.75.
Knobs, English, $1.40 *a* $1.50 per gross.
Laces, broad, silk, per yard, 60 *a* $1.25; narrow, 10c. to 16c.
Do. broad, worsted, per yard, 40c. *a* 50c.
Lamps, coach, $10 *a* $30 per pair.
Lazy backs, $9 per doz.
Leather, collar, dash, 28c.; split do., 14c. *a* 16c.; No. 1, top, 28c.; No, 2, enameled top, 26c.; enameled trimming, 26c.; harness, per lb., 50c.; flap, per foot, 25c.
Loops, &c.
Moss, per bale, 8c. *a* 15c.
Mouldings, plated, per foot, ¼ in. 14c.; ⅜, 16c. *a* 20c.; ½, lead, door, per piece, 40c.
Nails, lining, silver, per paper, 7c.; ivory, per gross, 50c.
Name-plates. (See Advertisement.)
Oils, boiled, per gal., $1.50.
Paints. White lead, extra, $14.00, pure, $15.00 per 100 lbs.; Eng. pat. black, 40c.
Poles, $1.25 *a* $2 each,
Pole-crabs, silver, $5 *a* $12; tips, $1.25 *a* $1.50.
Pole-eyes, (S) No. 1, $2.25; No. 2, $2.40; No. 3, $2.65; No. 4, $4.50 per pr.
Sand paper, per ream, under Nos. 2½ and under, $4.50.
Screws, gimlet, manufacturer's 30 per cent. off printed lists.
Do. ivory headed, per dozen, 50c. per gross, $5.50.
Scrims (for canvassing), 16c. *a* 22c.
Seats (carriage) $2 *a* $2.75 each.
Seat-rails, 75c. per doz.
Seat-risers, Linton's Patent, $2 per pair.
Seats, buggy, pieced rails, $1.75; solid rails, $2.12.
Shafts, $12 to $18 per doz.
Shaft-jacks (M. S. & S.'s), No. 1, $2.40; 2, $2.60; 3, $3.00.
Shaft-jacks, common, $1 *a* $1.35 per pair.
Do. tips, extra plated, per pair, 25c. *a* 50c.
Silk, curtain, per yard, $2 *a* $3.50.
Slat-irons, wrought, 4 bow, 75c. *a* 90c.; 5 bow, $1.00 per set.
Slides, ivory, white and black, per doz., $12; bone, per doz., $1.50 *a* $2.25; No. 18, $2.75 per doz.
Speaking tubes, each, $10.
Spindles, seat, per 100, $1.50 *a* $2.50.
Spring-bars, carved, per pair, $1.75.
Springs, black, 16c.; bright, 18c.; English (tempered), 21c.; Swedes (tempered), 26c.; 1¼ in., 1c. per lb. extra.
If under 34 in., 2c. per lb. additional.
☞ Two springs for a buggy weigh about 28 lbs. If both 4 plate, 34 to 40 lbs.
Spokes (Best Elizabethport), buggy, ⅞, 1 and 1⅛ in. 9½c. each; 1¼ and 1¼ in. 9c. each; 1½ in. 10c. each. 10 off cash.
☞ For extra hickory the charges are 10c. *a* 12½c. each.
Steel, Farist Steel Co.'s Homogeneous Tire (net prices); 1 x 3–16, and 1 x 1-4, 20 cts.; 7-8 x 1-8 and 7-8 x 3-16, 23 cts.; 3-4 x 1-8, 25 cts.; 3-4 x 1-16, 28 cts.
Steel Tire—best Bessemer—net prices: 1-4 x 1 1-8, 15c.; 1-4 x 1, 15c.; 3-16 x 1 1-8, 16c.; 3-16 x 1, 16c.; 3-16 x 7-8, 17c.; 3-16 x 3-4, 17; 1-8 x 7-8, 20; 1-8 x 34; 1-16 x. 3-4, 23.
Stump-joints, per dozen, $1.40 *a* $2.
Tacks, 7c. and upwards.
Tassels, holder, per pair, $1 *a* $2; inside, per dozen, $5 *a* $12; acorn trigger, per dozen, $2.25.
Thread, linen, No. 25, $1.75; 30, $1.85; 35, $1.80.
Do. stitching, No. 10, $1.00; 3, $1.20; 12, $1.35, gold.
Do. Marshall's Machine, 432, $3.25; 532, $3.75; 632, $4, gold.
Top-props, Thos. Pat, wrought, per set 80c.; capped complete, $1.50.
Do. common, per set, 40c. Do. close-plated nuts and rivets, 75*a*80c.
Tufts, common flat, worsted, per gross, 15c.
Do. heavy black corded, worsted, per gross, $1.
Do. do. do. silk, per gross, $2.c. Do. ball, $1.
Turned collars, $1.25 *a* $3 per doz.
Turpentine, pr gl., 70c.
Twine, tufting, pr ball, 50c.; per lb, 85 *a* $1.
Varnishes (Amer.), crown coach-body, $5.00; nonpareil, $5.50.
Do. English, $6.25 in gold, or equivalent in currency.
Webbing, per piece, 65c.; per gross of 4 pieces, $2.40.
Wheels,
Whiffle-trees, coach, turned, each, 50c.; per dozen, $4.50.
Whiffle-tree spring hooks, $4.50 per doz.
Whip-sockets, flexible rubber, $4.50 *a* $6 per dozen; hard rubber, $9 to $10 per doz.; leather imitation English, $5 per doz. common American, $3.50 *a* $4 per doz.
Window lifter plates, per dozen, $1.50.
Yokes, pole, 50c.; per doz, $5.50.
Yoke-tips, ext. plated, $1.50 pair.

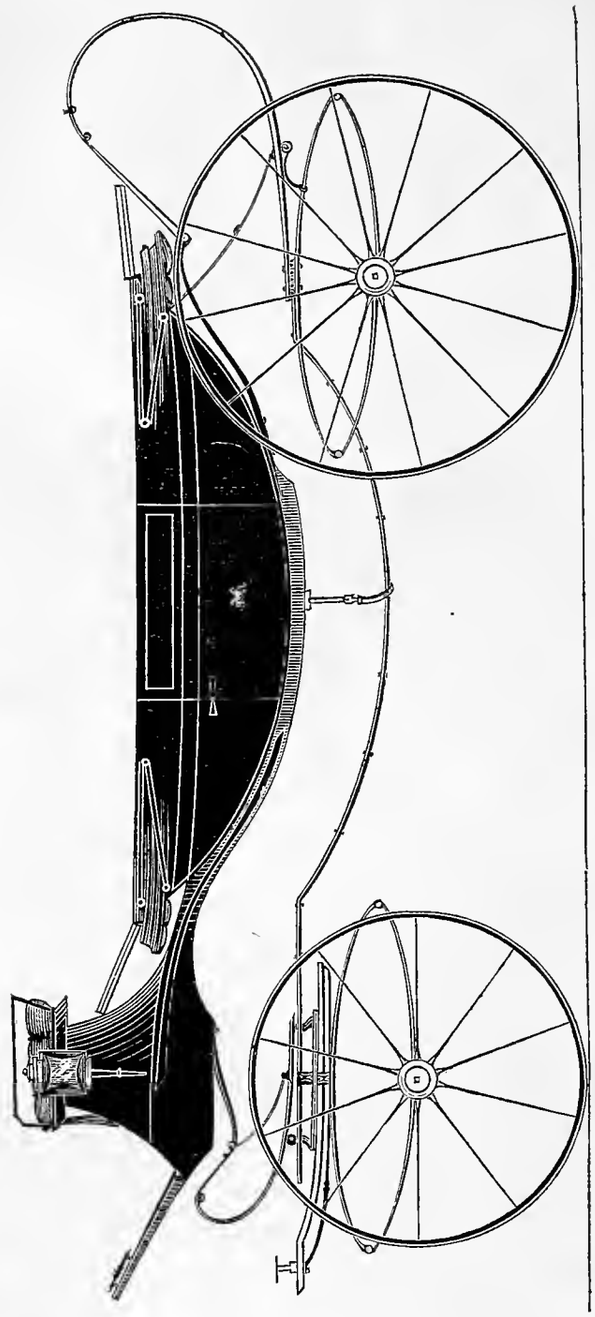
TO READERS AND CORRESPONDENTS.

R. H. of N. J.—Our quotations are for first-class goods, which in Baltimore, Philadelphia, and New York range about alike, as we know from inquiry *in personem*, in all these cities. Those you refer to are made for the special benefit of parties immediately concerned, for what object it is not difficult to infer. Manufacturers and advertisers who find their stock depreciated by such a course, will probably have something to say about it in time.

C. J. of Mass.—Your communication, if possessing any merit, will be thankfully received.

S. W. of Ill.—You will find "Decalcomanie" in our advertising columns, and prefer that you give that house your order.

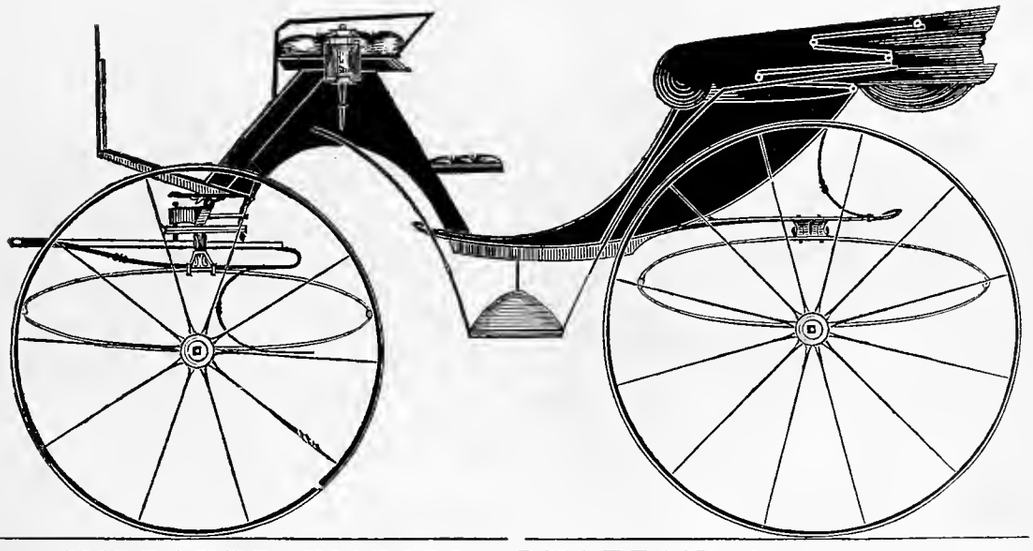




LANDAU.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 56.



IMPROVED VICTORIA PHAETON.—½ IN. SCALE.

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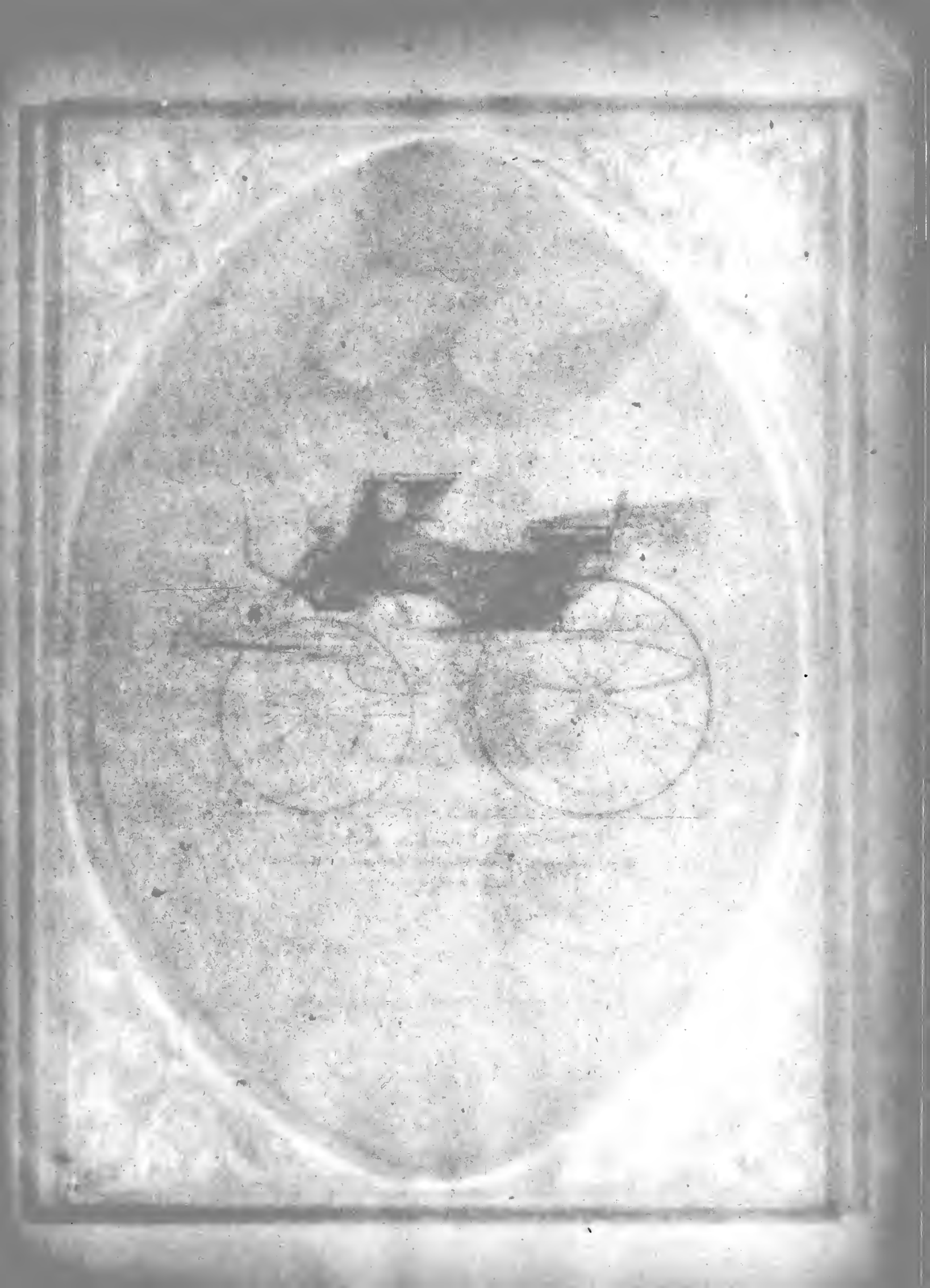
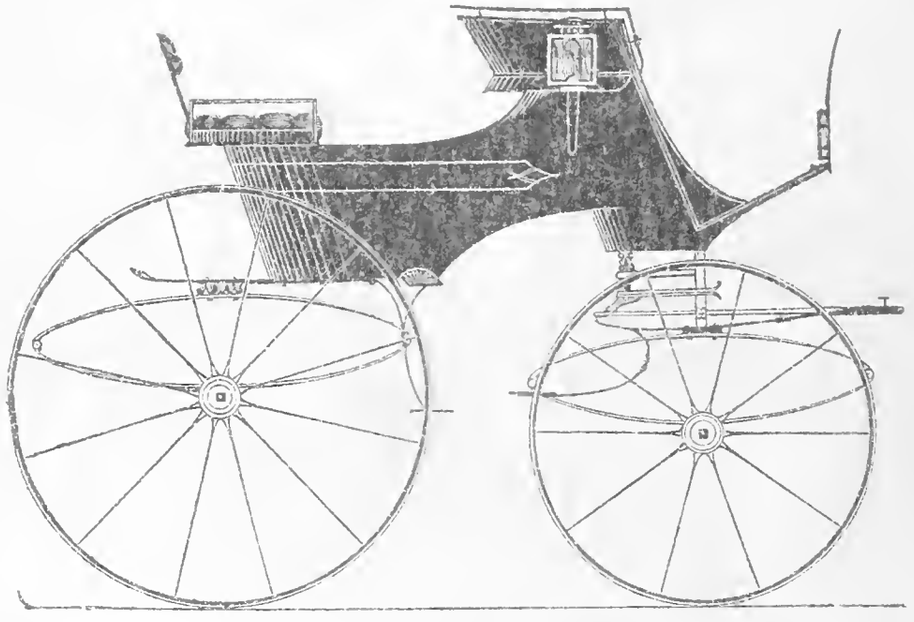




DOG CART.—½ IN. SCALE.

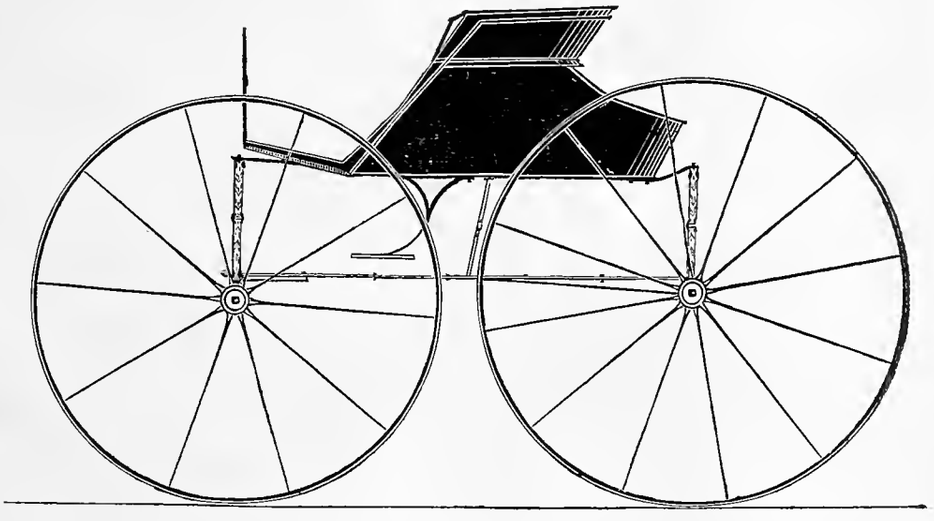
Engraved expressly for the New York Coach-maker's Magazine.

Explained on page 56.

SHIFTING-SEAT CUTTER.—½ IN. SCALE.

Engraved expressly for the New York Coach-maker's Magazine.

Explained on page 56.



NEW YORK BUGGY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 56.

DEVOTED TO THE LITERARY, SOCIAL, AND MECHANICAL INTERESTS OF THE CRAFT.

Vol. X. NEW YORK, SEPTEMBER, 1868. No. 4.

Mechanical Literature.

CRITICISM OF THE JURY'S REPORT ON CARRIAGES, IN THE PARIS EXHIBITION.

(*Concluded from page* 34.)

Our last article was not written precisely with rose-water. We did not dip our pen in honey in order to sweeten the bitterness of our criticism, and thereby make it more acceptable to those whom we believed were in fault. In a word, we did not fear to express our mind freely and to apply the truth righteously. We would desire to go much farther with the blame and accusation, and recede in no wise before the logic of our judgment and that of the great mass of the public (the true and sovereign judge), definitively, against all the errors, injustices, or all the *forgetfulness*, more or less voluntarily committed by the honorable members composing the jury. But space fails us for making a comprehensive resumé upon the points mentioned, as also upon the distributed awards. To-day we complete our work, finish our task in filling up that which would otherwise be a blank in our critique, even if we do not continue to the end.

Why, after all, should we be astonished at what has transpired? Are not men everywhere and always very nearly alike? Are they not governed by the same passions and the same interests? Let us, therefore, look at things as they are, without complaining or being too indignant that they are not otherwise. We bow before facts, as they are all powerful. If we protest, it is only to acquit our conscience, and not in the hope of correcting the fault, or doing away with the evil. The entries in the catalogue were numerous, and our industry, for that matter, furnished a very respectable quota to the Exposition of Universal Coachmaking. But need this be regarded as saying that everything had a right to the place it occupied? We are without doubt something of possimists, of bad judgments, and the like, but we cannot help proclaiming what we believe to be true.

The entries in the catalogue, or the admissions, as you please, depended simply upon the quality of the references. Merit was less indispensable than a good recommendation. Right and justice themselves had need of being elevated and praised to pass the canal of favor. Our readers can see by what we affirm, that we do not deny the worth of the works admitted. But whatever their value might be, the best passport to the eyes of the examining committee, was, above all, the reputation of the exhibitors—a reputation extolled and strengthened with pompous display and by protective friendships, obtained by means unknown to us.

The consequences that come out of this state of things are many, and plain to the mind and eye. The awards obtained rightfully—and there were a few of this kind—do not bear the fruits to be desired.

This Exposition, which promised to stimulate genius, to be her most powerful wing, will be, on the contrary, only a weight. If the arrest is not general, it will bear always upon those who, in exhibiting their new works—those for which they had given time, money and study—had expected an appreciation more just and visible. These men of labor, of principle, of genius, instructed by the experiences of the past, will no more, henceforth, use all the strength and resource of their intelligence, in order to give to their competitors some new ideas, beautifully and well wrought out, as models to serve as inspiration to a crowd of inferior workmen, who have only tact enough to fling out their own contraband colors from a pedestal they have foully made subservient to their uses.

One reflection that sadly assuages our thoughts is, that these deeds, applicable to classes 61 and 62, are equally so to all classes, to that of 94 among others. Is not the logical deduction that one draws from all this, that a uniform programme had been marked out and imposed upon the various examining committees, by the Imperial Commission?—a programme lightly despotic, granting awards only to the incumbents of houses of note, and leaving entirely in the shade all those who lacked notoriety. It would be necessary to swallow a generous dose of blindness in order *not* to divine wholly the range of these tactics, too little or too grossly disguised to be invisible to the right of the whole world. It is very evident, from what has passed, and from what serious and reflective minds have uttered, that if the fates grant us another Exposition, affairs will be managed in quite a different man-

Entered, according to Act of Congress, in the year 1868, by E. M. Stratton, in the Clerk's Office of the District Court of the United States for the Southern District of New York.

ner. Progress will pursue no less her ascendant march—a progress not depending upon the niggardly consideration of persons and of interests purely industrial. The disposals of the crosses of honor may perhaps be less abundant, the haberdashers will sell perhaps less of little red ribbons, but the principles of equity will meet with fewer obstacles, and the scales of distributive justice have a platform independent of all influences foreign to the reality of merit. In substance, we say, without fear of being thought inconsistent, that the numerous mechanics have exhibited some very beautiful products, which the public, wholly disinterested, fully appreciated even before the awards were distributed. Moreover, what have they accomplished? The result has been to heighten the renown of competitors unquestionably less capable, and whose work was less perfect, less successful.

In thus publicly blaming the members of the jury, we have plainly comprehended the danger of our sincerity. What else should we fear? We can verify what we have affirmed. Our duty is completed. Now we will regard with silence those deplorable deeds, wishing no longer to weary our readers with our complaints and protestations. Our conscience has spoken. It has no longer only to keep silence, and find consolation in dreaming that Time is a great master that brings in his train every remedy and reform.

WHAT CAME OF A STRIKE IN CHICAGO.

THIRTEEN months ago, some five thousand mechanics and others of Chicago resolved that they would reduce their hours of labor one-fifth, and for eight hours require the same wages that were given for ten hours' labor. They struck, and on the 1st of May, 1867, paraded the streets with music and banners. The majority of these men remained out of work for one month, others for two months, when they returned to the old wages and at the old hours. Hundreds of them never obtained work at any price or hours, and had to go elsewhere where they were not known.

That strike cost these people half a million of dollars in loss of wages—that is, they received that sum less than what they would have received had they worked on. The business of the city was put back, and there was another vast sum of money which remained unexpended that would have been expended for labor had there been no strike. The loss of the workmen of that city during the season of 1867 was not much, if any, less than one million of dollars. It was a self-imposed tax, which they levied upon themselves by the advice of low demagogues, who live by bartering and selling the interests of the workingmen of Chicago.

The season of 1868 has opened with an array of labor for builders not precedented in this city. There is work for all classes of labor, and plenty of it. Men who have been idle all the winter, and at low wages in the early spring, can now command good wages. The bricklayers have been induced to quit work upon a strike for five dollars a day. The bosses pay from four to five dollars a day according to workmanship, but refuse to pay five dollars to any man who is not in their judgment worth that sum. The Union admits that all men are not worth the five dollars, but denounces all men as "scabs" who work for less than that sum. There are a vast number of contracts out, and these misguided men are told that if they only stand firm they will be able to compel the bosses to yield. The bosses do not intend to do anything of the kind. There is a meanness in making a demand upon the "stand and deliver" style to which men will not yield. There are thousands of bricklayers all over the country who are willing to work for what their labor is worth, and when the bosses conclude to pay five dollars a day they will pay it to men who have not taken part in the strike. Workmen from the Eastern cities have been engaged for Chicago at the full wages required, the men being all first class hands, and full work being guaranteed for the season. These men, of course, take the places of those on the strike.

The folly of this strike in a pecuniary sense is evident. One hundred and fifty men, each receiving $4.50 per day, quit work because they are not paid $5 per day, and remain idle until August 1st, and then go back to work at $4.50. Put that actual loss in figures:

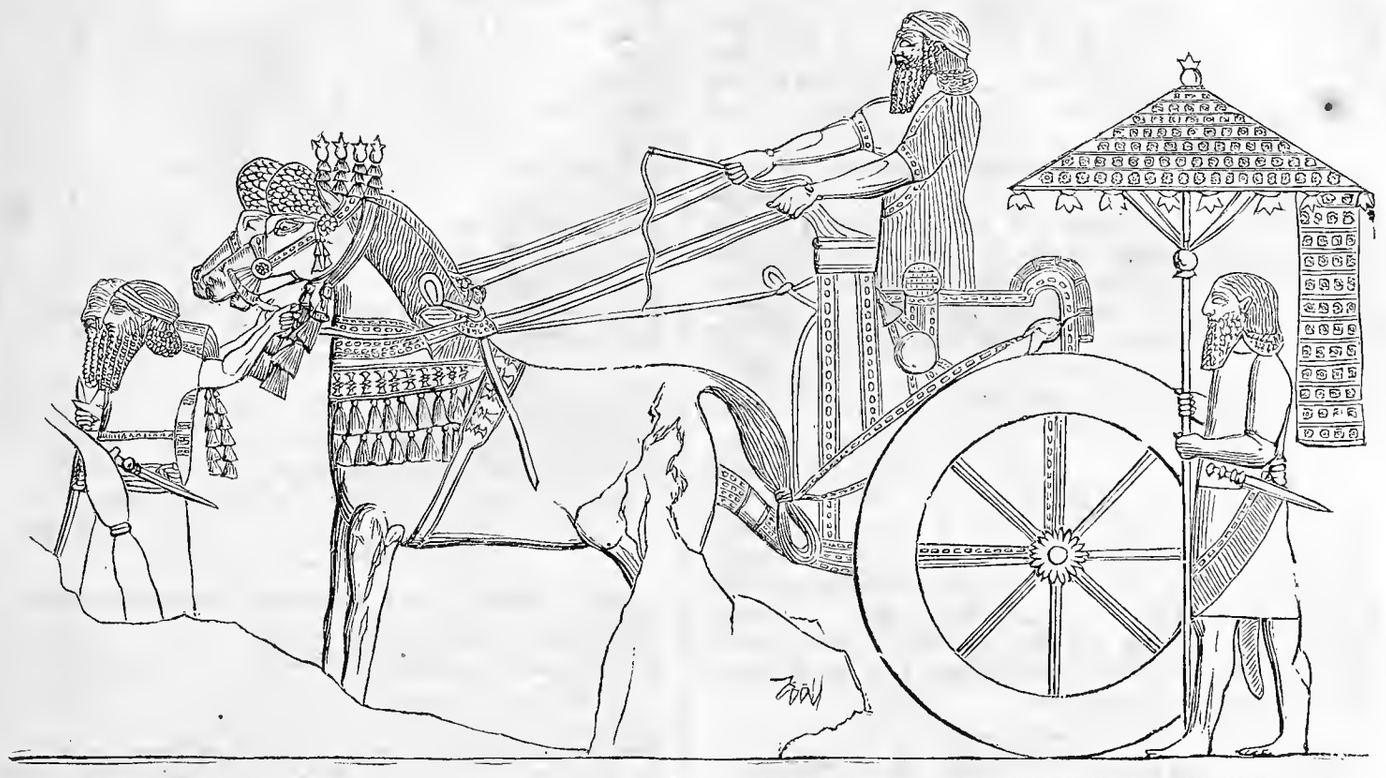
150 men from June 1st to August 1st, 49 days, at $4.50..... ..... $7,300

OUR ASSYRIAN CARRIAGE MUSEUM.—IV.

LAYARD is of the opinion that the bas-reliefs of Khorsabad—discovered first by Botta—are much older than those afterward found by him at Nimroud. Layard's conjectures may be correct, but in this opinion we differ. If we closely inspect the slabs on which chariots are represented, we find those from Nimroud (with a single exception) all have six spokes in each wheel, the same number as we have seen in the Egyptian; but those from Khorsabad, as we shall hereafter discover, almost invariably have eight; and in the still later carts and other vehicles from the ruins of Kuyunjik, discovered since Layard ventured his opinion, there are four, eight, twelve, and even sixteen. In early Egyptian times four was the usual number, but it will be seen as we proceed, that in proportion as art has advanced, in the same ratio has the number been increased, until, in order the better to support the felloes, as many as a hub will bear and not weaken it too much, have been inserted. Agreeable with these convictions we have introduced the Nimroud sculptures first, as being the more ancient of these treasures from ancient Nineveh.

There is one very remarkable feature in the wheels of these Assyrian chariots, which distinguish them from the Egyptian. When we examine the bas-reliefs in this collection, we find that the spokes are very slight compared with other portions of the wheel—a circumstance favoring the probability that they were made of iron. This surmise is somewhat strengthened by the fact that the fragment of a small circle undoubtedly forming the portion of a car wheel, has been found in the ruins of Nineveh, on the concave side of which still remain the iron roots of the spokes. The rims of these wheels appear to be composed of two superposed circles, the external one being united to the other by broad flaps, or plates, in most examples, although not shown in all.

Kouyunjik Tepè, as the place is called by modern Arabians, lies northward of Ninionah and consists of a mound probably formed out of the ruins of a temple or palace erected by some Assyrian monarch, possibly by Senacherib, since the bas-reliefs exhumed by Layard chiefly relate to some events in his life. This palace is more modern than Nimroud or Khorsabad, as the objects found



THE CHARIOT AND CHARIOTEER OF SENACHERIB IN WAITING BEFORE LACHISH—FROM A BAS-RELIEF FOUND AT KOUYUNJIK.

in its ruins demonstrate. There is a great improvement shown in the chariots, both in construction and design, as will hereafter be seen.

In the drawing of which we give a copy, is shown the chariot of Senacherib—proved such by the cuneiform inscription which accompanies the original slab—the great king of Assyria, who "came up against the fenced cities of Judah and took them" during the reign of king Hezekiah.* The king having left his chariot is seen—in plate xxiii—sitting in judgment on a marble throne before the city of Lachish, before whom stands an officer of rank, perhaps Rabshaketh himself, followed by soldiers of his army. A little way off captive Jews are discovered. Near by, the king's chariot—which is seen in our engraving—stands ready for use at his call. The charioteer, as well as his umbrella-bearer, are at their posts. To make all doubly sure, two soldier-grooms hold the heads of the horses. The most noticeable feature in this chariot is the unusually high wheel, and the exquisite finish to the whole. The body of the chariot is different in design from anything which has hitherto met our notice. On a line with the front and upright stands the empty quiver; and slung at the side, on an angle of forty-five degrees, hangs an ornament reversed, similar to the one seen between the horses in the chariots from Nimroud. For what purpose these were designed, is not clear—probably more as an ornament than for any practical purpose. The two horses have headgear differing from previous examples, and the harness and trappings are of superior finish. The tails of the horses, too, are tied in a knot unlike those from Nimroud and Khorsabad, but which will be seen again in the basreliefs of Persepolis, in a future article.

* 2 Kings, ch. xviii, 13. B. C. 720. For an account of Senacherib's expedition as told by himself, see Layard's Babylon and Nineveh, ch. vi.

CARRIAGE MAKING IN CALIFORNIA.

What follows in relation to California carriage-making is extracted from different local publications sent us from the Golden State:—

The evidences of the prosperity of our State, and the encouragement given to domestic manufactures, is nowhere more evident and striking than in the erection of the immense Carriage Manufactory by Geo. Kimball & Co. at the corner of Fourth and Bryant streets. This structure was commenced in March only, and although the rain, scarcity of material, and delays of various kinds absorbed twenty days of the period between its commencement and its completion, less than three months have sufficed to erect a structure that does honor to our State, and exhibits a confidence in its future that cannot but result most favorably in a pecuniary point of view. Of late, California manufactured wagons have been much more popular than the imported, as they are better adapted to the requirements of the country, and the business has increased in proportion to the growing wants of an increasing community.

Messrs. Kimball & Co. are widely known throughout the State, and their wagons are like household words. About one year since they conceived the idea of a combination of the principle of the perch-spring and thoroughbrace—the perch and spring being one piece, and steamed and bent, forming a curve, over which the thoroughbrace passes, and upon which the body of the wagon rests. They also substitute a steel plate for the usual heavy axle, thus lessening the weight of an ordinary wagon 33 per cent. The experiment has proved a great success, and Messrs. K. & Co. having received their letters patent for these improvements, determined to increase their facilities for manufacturing equal to the demand; for this

purpose they have erected a manufactory unequalled on this coast, and perhaps not excelled in the United States. The main entrance fronts on Fourth Street, is 50 feet wide, three stories high, running back 275 feet; thence 250 feet on an angle to Bryant Street. The walls are of brick, twenty inches thick for the first story, and seventeen above. The first floor of the Fourth Street wing begins with a space of fifteen feet for an entry and for the broad stairway to the second story. In the rear of this petitioned entrance is the smith's shop, 260 feet long, with a row of eighteen forges. The first thing that attracts notice is the absence of any bellowses; their place, however, is supplied by one of P. H. Root's Patent Blowers, manufactured at Globe Iron Works, Stockton, placed near the ceiling and entirely out of the way. From this blower a large air-pipe extends the entire length of the shop behind the forges, with valves, admitting the currents of air to the fires, regulated by a little hand-lever. The ceilings are twenty feet high, and arched openings, ten feet wide and fifteen feet high, on the inside wall of the building, give air and light. At the junction of the two wings the steam-engine of forty horse-power is placed; a very beautiful piece of mechanism from the works of Booth & Co. On the floor of the Bryant Street wing the machinery is placed, consisting of a planing machine, circular saws, jig saws, shapers, and all the most modern paraphernalia for converting oak and hickory timber into delicate shapes for light wagons. On this floor is built, also, the heavy work—carts, drays, Government and freight wagons, express wagons, etc. Stepping on to an elevator, we are whirled up by steam to the second story, across the front of which, at the Fourth Street end, the offices are situated. These consist of a large, spacious public office in the centre, and a private office each side; the walls and ceilings of which are of matched white cedar and redwood alternately, giving a pleasing and novel effect, and when varnished make a very beautiful, at the same time inexpensive finish. This floor is the repository, where whole rows of elegant carriages stand, with open spaces or avenues for promenade through them. Here one can see all the samples of the wagons and carriages manufactured by Messrs. Kimball & Co., and also a fine assortment of the celebrated carriages and buggies of Brewster & Co., of New York, whose work is so well known on this coast; stage and mountain wagons, prominent among which are the varieties of the wood-spring wagon. Passing on we turn into the Bryant Street wing, where we encounter an army of painters, and wind our way among the skeleton wheels and bodies of wagons in all stages of painting—an entire floor of this wing being given up to this purpose. Ascending a flight of steps, we reach the painters' platform; crossing which we enter on another floor, on the right of which are placed benches, and all the tools and materials for making the leather thoroughbraces. The last fifty feet of this floor is partitioned off for the "trimmers'" shop, around the walls of which on three sides are the trimming benches, 150 feet in length, with platforms in the centre. The view from this end of the building is fine, taking in Mission Bay and the Potrero. Retracing our steps, we pass on to the third floor of the Fourth Street wing, where the wood springs are made, and are to be seen in various stages of progress. On the right we find a row of benches, where the wheels are being made. The best quality of the beautiful white hickory used, and also the elm hubs, are imported from Ohio. On the left, as we pass along, are piled the bodies of buggies and phaetons, in all varieties, ready to go into the hands of the painters; on the right is a space 25 by 50 feet partitioned off for making double-seated bodies. Passing through the door of a cross partition we enter into a busy place, where the rat-tat of light hammers and the hissing of fine saws indicate business; here are about thirty men employed in making the fine work of the light wagons, requiring the finest bass, or white wood of Ohio, also.

Summing up our steps we find we have passed over an area of 86,000 square feet. We noticed large water-pipes running the entire length of the second and third floors, with bib-cocks and hose every seventy-five feet. The steam is led from the boiler by pipes to the various wood-workers' departments into coils that are constructed to receive the "glue-cups" and supply heat to the room for drying purposes—doing away with the necessity for lamps or lights of any kind—the rules of the establishment, in fact, prohibiting the use of matches or smoking in any part of the building. All the preliminary work is done by steam power, and prepared for the workmen, thereby saving a great deal of hand-labor and reducing the cost of a wagon considerably.

One million five hundred thousand bricks were used in the construction of the building. In the construction of the foundation of the wall, before a brick was laid, 118,000 feet of redwood plank and square timber were used; of other materials, 150,000 feet of joist, 62,000 feet of square timber, 10,000 feet of cedar, 100,000 feet of flooring, and ten tons iron fastenings, every floor first being "anchored" and bound in the wall by iron clamps; rods of iron also run from wall to wall; earthquake girders every twenty feet, and no pains or expense has been spared to make the building staunch and safe. In addition to the planes, saws, lathes, trip-hammers, and other machinery doing the work of fifty men, the number of employees average 175, besides which Messrs. K. & Co. employ 40 men at the prison at San Quentin, getting out heavy work. Summing up the labor in all of say 250 men, giving steady employment to a superior class of mechanics who receive good wages, and set a great many dollars afloat in a part of the town of which very little is known by the denizens of Montgomery street. The erection of this mammoth building [the largest on the Pacific coast,] has enhanced the value of property very considerably in that vicinity. Messrs. K. & Co. occupy the entire lot—their corner extending 275 feet on Fourth street, and 275 feet on Bryant, running back the same size—in other words, an entire 100-vara lot, valued at $100,000. The brick work was done by Geo. D. Nagle, by contract, and the wood work by day's work, the whole structure being under the immediate supervision and direction of Mr. H. L. King, who superintended the construction of the Bank of California, the new Mercantile Library, etc. The entire cost of the building and machinery amounts to $150,000.

Among the wagon and carriage manufactories of Stockton, which reflect credit on the enterprise, and honor upon the talents of its mechanics, none merit so marked attention as the wagon and carriage manufactory of Wm. P. Miller, on the corner of California and Channel streets. He has been located upon the same block since 1852, and by his individual exertion and well earned reputation for turning out superior work, has built up a business that is creditable alike to himself and the city of his adoption.

So long as extensive teaming was carried on to the Southern placer mines, great demand existed for heavy, strong freight wagons, and much rivalry existed among teamsters as to which should have the best and most thoroughly equipped vehicle and team. It was not unusual for the mammoth and ponderous wagons alone to cost from $900 to $1,100, and in the construction of such work, for stability and perfectness in every detail, Mr. Miller established a reputation co-extensive with the mining region. The desiccated atmosphere of the climate required the wood work to become seasoned, fitted and put together in this region, it being found that Eastern made vehicles fell to pieces from the excessive shrinkage ensuing after a long moist sea voyage, and San Francisco work suffered a similar fate. In this early day little call was made for fine work; yet when coarse work went out of use, Mr. Miller laid the foundation for his present extensive business, and is now prepared and is executing wagon and carriage building, from the finest to the commonest styles, in a manner to the satisfaction of the farmer, the jobber, or the man of wealth and leisure. His work is enduring, and finished to suit any taste or requirement. Mr. Downing, of Concord, New Hampshire, a famous coach builder, on a late visit to Stockton, after examining critically a three-inch iron hub wagon, pronounced it in its workmanship and appointments the best he had ever seen. Several light wagons have been built expressly for San Francisco, where they came in competition with the vaunted best skilled labor in the State and came out bearing away the palm. As the needs of his enlarging business required, the proprietor has been adding buildings to his grounds, last year having added a shop for wood work 24 by 46 feet, with six benches and a counting-room. This season he has had put up the finest and most substantial brick blacksmith shop in the State, two stories in height and built expressly for the convenience of carrying on work systematically and economically, and for the comfort of his workmen. In size it is 50 by 60 feet with a basement for coal and rubbish. On the first floor there are six forges with elevated bellows, seven work benches, eight vices, drill and punch machine, tire upsetter, extensive racks for iron, steel, bolts, &c., and other admirable conveniences. The windows are arranged to run up into the walls of the building and the transom door lights work on hinges. On the second story a trimming room is fitted up 18 by 30 feet, the balance of the space being used in storing wood wagon work in a systematic order. Adjoining this is a paint shop 24 by 90 feet, with varnish room hard finished to prevent dust from injuring work in putting on the last touch to carriages, etc. There is also a capacious shed for lumber and wagons 22 by 250 feet. Mr. Miller is now employing twenty-five workmen and has carriages and wagons ordered to the value of $7,000. The establishment is also prepared to do repairing, and has unexcelled opportunities for executing anything in the light mechanical portions of the blacksmith and wagon trades. Besides this, there are twenty-two other blacksmith shops, and eighteen shops where the woodwork of wagons is made in Stockton. The number of wagons being made will number 200, which demonstrates that this city has concentrated an extensive branch of business in its midst, and all are in a flourishing condition.

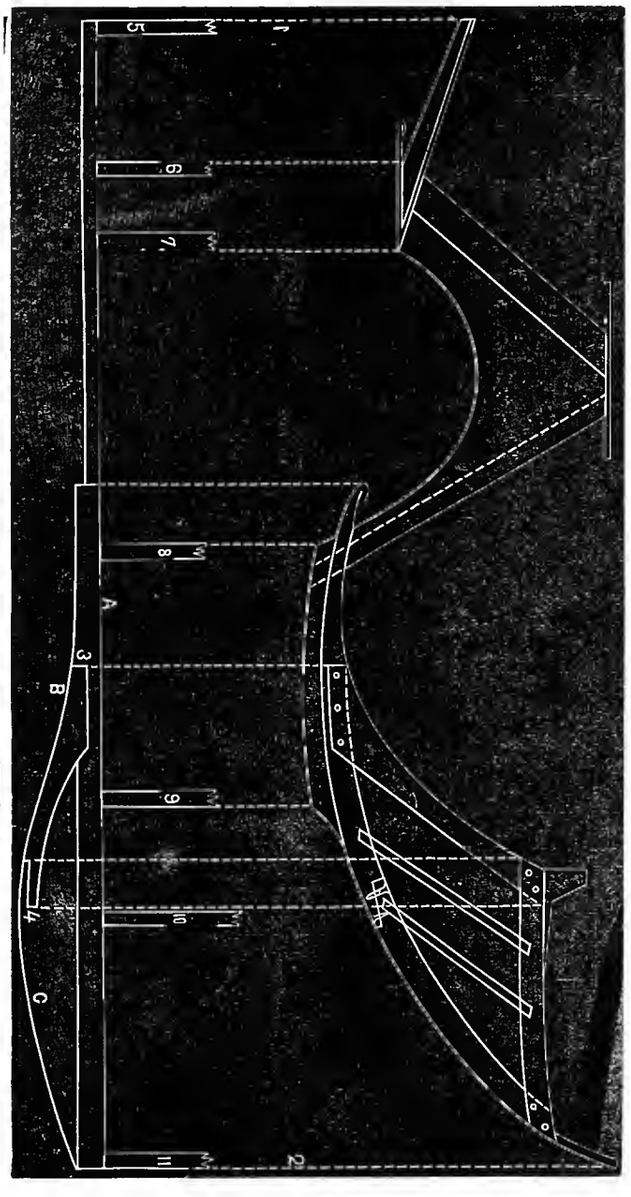
Matteson & Williamson, corner of Maine and California streets, have, next to Wm. P. Miller, the largest blacksmith shop in the city. We noticed, on Thursday last, seven newly finished ranch-wagons, and twenty-three partly finished. The firm have six blacksmith forges fitted up in the most approved manner, where everything in the shape of steel and iron is manufactured and molded. We noticed at the establishment four express wagons which are vehicles of a superior kind. All the iron work, elliptic springs and all, are manufactured in the shop. Passers by, in looking at the exterior of the shop, can form but little idea of the extent of the work going on within its walls. Several young men are now busy manufacturing the patent for use in loading hay and grain.

GEOMETRY OF CARRIAGE ARCHITECTURE.

BY A PRACTICAL COACH-MAKER.

BODY CONSTRUCTION.—PART TWENTY-SEVENTH.

THE diagram which accompanies this article is intended to instruct the workman in building the body of the



VICTORIA PHAETON WITH CANT.—HALF-INCH SCALE.

Victoria Phaeton illustrated on plate xiv, found in this volume. In our explanation we shall study brevity as well as simplicity.

Having determined the extreme length of the body and cant, next proceed and draw the dotted lines 1 and 2, as we have done on the black-board; afterwards adding the other parallel lines at proper distances by measurements, according to recognized mechanical rules. This finished, next draw the outlines of the body and other portions until completed.

The cant is drawn at the bottom of the board; A representing the inside line of the bottom-side, B the broad-pillar, and C the swell of the body—in this case, perhaps, a little too much. Figures 3 and 4 are placed at the ends of the broad pillar. Figures 5, 6, 7, 8, 9, 10 and 11, represent so many cross-bars to the body.

Home Circle.

THE HUSBAND'S TRIALS.

BY AN IMPATIENT POET.

Now Annie, my spouse, my feelings are hurt,
By the rubbings of Bridget, and failings in you—
This morning I sought to find a clean shirt;—
Among a dozen or more, there was none that would do!

From the first I laid hands on, when first I arose,
The buttons from neck-band had ruthless been torn;
The next, fondly thought I, will answer my purpose—
But, scissors! I found my last hope had now flown.

Among the whole lot there was something amiss
Which taxed my patience and put me in pain;—
That needed a button—a patch upon this—
Such remissness I hope will not happen again!

Such trials! Ah me! 'tis sad to relate
What husbands endure from one simple rub—
The morning, though chilly, I shirtlessly sate,
All because a few buttons were lost in a tub!

Oh Annie, my dear, had you examined in time,
And a few stitches taken where needed the most,
'Twould have saved me the trouble of penning this rhyme,
And after-regrets for the temper I lost!

TAKING THE OATH OF ALLEGIANCE.

BY MARY A. E. WAGER.

"I JUST *hate* it—this humdrum life up here in the country, with worms and bugs and caterpillars at every turn! If you and mother and Louise *will* stay, so be it. As for me, I'm going to Aunt in the city, and what's more to the point, I've a scheme in my mind that will make me somewhat independent." And leaving the room, Corinne Hudson marched away to pack her trunks. This demonstration was not regarded as being wonderful or surprising, as Corinne, although having one of the most charming faces in the world, had the faculty of producing a thunderstorm occasionally. In her gentle, sisterly moods, it was "Louie, dear," but when she assumed command it was "*Louise!*" and she would go marching through the house like an empress. Her father was one of those often-met-with men who had fallen from grace in a pecuniary sense, and had saved only enough to secure a comfortable place in the country, whither he repaired with his wife and two daughters. His son had, some time prior to this, married a Southern heiress, and resided in Alabama. His eldest daughter, Corinne, was now past twenty-four, but her years had in nowise detracted from her beauty, which was of the picturesque style and attracted universal admiration wherever she appeared. She had been a flirt of the most unprincipled character, winning hearts and rejecting hands in the most indiscriminate and heartless manner. Even her father's failure had not brought her to regard matrimony as the means of retrieving their shattered fortune, nor the best avenue to the city life of which she was so fond. She tired of ordinary routines, and was ever on the *qui vive* for something that would relieve monotony. So she went to New York and carried out her scheme of opening a little studio and devoting her artistic talents and taste to coloring and finishing miniatures, and other bits of art that required exquisite and delicate touches. As the natural result of her disposition she soon tired of this, and wrote to her brother to send for her, as she was "literally dying from stagnation."

She went South at the time when the national atmosphere was ominous with civil discord, and had scarcely more than reached Alabama before the whole South was up in arms.

Although born and educated in the North, she had decided Southern proclivities, and the associations now thrown around her only increased and strengthened her sympathies with the rebellious movement. She threw her whole energies into the work, and displayed as much devotion and enthusiasm to the cause as though she had been to that manor born, and had all the fiery, impulsive blood of the South coursing through her veins. During the war, her experiences were similar to many of those of other women in equally affluent circumstances. Their home was attacked by a squad of Federal soldiers, and not much mercy shown, as Mr. Hudson and his family connections were well known for their hostility to anything savouring loyalty to the United States Government. A precipitate retreat to Mobile was the result. But when the Yankees began to throw, to send bombshells and cannon balls in that city, Corinne concluded she had had enough of life in the South during the reign of war, and decided to return to New York if that were possible.

New Orleans had lately been seized by the Federals, and she believed that by going thither and acquainting the officers with the fact of her Northern birth and connections, she could get passage on a Government steamer. The undertaking was extremely perilous, as the journey must be made overland to Vicksburg and thence down the river. She accomplished it nevertheless, but on arriving in New Orleans learned that she could obtain a pass to come North in no other way than by taking the oath of allegiance, which she at once declared she would not do.

The officer to whom she was directed, was a Federal captain of fine military bearing. He had clear, calm grey eyes, and was about thirty years old. He thought he had never seen a woman quite equal to Corinne Hudson who stood before him, determined to go North and equally determined not to acquiesce in his official demands.

"But it hardly looks reasonable for you to desire the aid and protection of a Government to which you will not,

at least, promise allegiance," urged the captain quietly.

"There's no use my swearing to a lie," said Corinne vehemently, twining her long curls nervously about her slender fingers. "I hate every individual Yankee with my whole soul. Talk about "protection!" Why these "protectors" roamed over the whole country like a race of vandals, devastating everything in their way. They went through my brother's house like so many lunatics. I can endure ordinary abuse with tolerable grace, but when I saw those beasts take my best silk dresses that my brother had procured only at the enormous blockade-running prices, tie up the bottom, and fill up the skirts with sweet potatoes or onions or corn beef and fling them over their horses' saddles like so many bags of cotton, I could have seen them hung graciously. One dirty fellow flung my elegant velvet cloak over his shoulders tying the sleeves around his villainous throat like a gingham necktie. They stuffed my delicate bits of handkerchiefs in their coat pockets, and fastened my ribbons, belts and sashes on the bridles of their steeds. No, sir, I cannot swear allegiance to what I do not love, and you need no further assurance of my not wasting any on the United States Government."

She grew fairly radiant in her use of invectives, and the Captain was getting more and more infatuated with herself, although far from indorsing her disloyalty.

"But, Madame," he rejoined, "you could hardly expect me to give you a pass under these circumstances. You may be a spy, or bearer of unwholesome dispatches, for aught I know. The safety of the Government I have the honor to serve, cannot afford to grant your wish, without proof of your past loyalty or future loyal intentions."

"My past loyalty has been to the South, and my future shall be spent in prayers for her success. I am no spy or bearer of dispatches, but I am tired of the strife, and want to go home. I cannot and will not take the oath of allegiance. I want a pass to go North—*will you give me one?*"

The stubbornness was dying out of her face, leaving an appealing desperation that only enhanced her loveliness. A hardened old man, dyed in official discipline, might have resisted her appeal. But the captain was young and susceptible, and although he wished his heart were a castle in which he could literally immure the beautiful rebel, he was almost persuaded to give her a pass if the whole Government went to ruin because of it.

"I will consider this matter," he said at length. "In the meantime I shall consider you as under arrest;" and sending an orderly for a carriage he escorted her to a hotel, ordering rooms for her, and charged the guards to allow her to see no one.

This was a new phase of Federal rule, and she hardly knew what to expect. She concluded to calmly await events and make no attempts at demonstration. She had hoped to make the man yield before the power of her beauty; but gallant and gentle as he had been, she felt utterly defeated for once in her life. There was a power and strength in his calm, grey eyes, that was stronger than anything within herself.

The day passed slowly enough, although all her wants were supplied. Twilight came on, and she was not only nearly sick from nervousness, but hungry for a human presence that she could talk to. She began to believe that she really could endure one of the odious Yankees! Presently a servant brought a card bearing the name of Horace D. Saybrook, U. S. A., and which was quickly followed by the captain himself. He extended his hand and it was recognized by the soft palm of his state prisoner. He enquired after her health and comfort, and then devoted himself to entertaining her with conversation wholly foreign to war topics. He proved himself conversant with literature and art, and shared her musical tastes. He remained an hour, and then bidding her good evening, left her without farther ceremony. The next pay passed like the previous one, and the evening in solitude. It was not until the following evening that the captain again appeared. This time he said but little, and Corinne found herself unconsciously exerting herself to the utmost to please him. She talked and sang and was enchanting. When the hour expired he arose to go, and holding out his hand, held her own tenderly, looking earnestly in her eyes, and said: "Miss Hudson, I appreciate and remember your desire to go North, but *under the circumstances*, I cannot allow you so to do, unless you take the oath of allegiance in at least one of two ways. I will make them known to you to-morrow evening."

Corinne was getting more and more dumbfounded. He knew she would give no oath to allegiance, and why did he tantalize her so foolishly? She confessed to herself, that there was a strange fascination about the man, and he was so frank, and generous and manly in his deportment, that she could not believe he would subject her to anything shameful. She was glad when the evening came, for the sooner she knew her fate the better.

The captain, after his usual greetings, said the first way in which she could go North, he had already acquainted her with, and again presented it to her, as she might have changed her mind, but she cut him short with—

"I have said I would not sign the oath of allegiance, and I only now repeat it with renewed emphasis."

"The other," continued the captain, "is an oath of allegiance which you must take voluntarily, if at all."

"Allegiance to what?" she asked quickly.

"*To myself.*"

Corinne's eyes went straight to the carpet. Her face flushed and paled and then flushed again. She looked up, after a little, straight at the Captain, and said somewhat tremulously—

"What does this mean?"

The captain was before her with his arms crossed over his loyal uniform.

"It means that I love you," he said proudly.

Her eyes went to the carpet again and then to his face.

"You love me well enough to warrant this?" she asked doubtfully.

"Yes, to warrant anything—everything."

She sat some minutes in silence, and then rising gave him her hand, which the captain eagerly clasped, and bending his handsome head, claimed the seal of her lips on his own. She came North on the next steamer, but it was not until after the war had ended, and the religious rite of marriage been solemnized which made her Captain Saybrook's wife, that her friends learned how she came North without taking the Oath of Allegiance to the United States Government. She proved a loyal subject to one Yankee if not to her country.

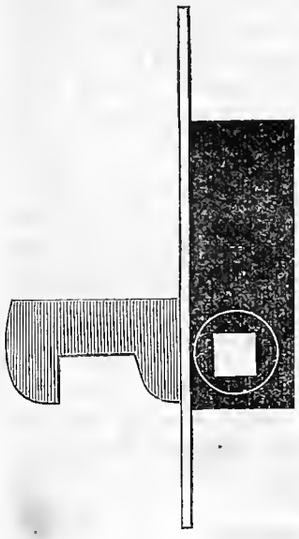
Spoke Factory Burned.—Busby & Co.'s spoke factory in Philadelphia was burned on the 6th of August. Loss, $25,000

Pen Illustrations of the Drafts.

LANDAU.

Illustrated on Plate XIII.

IN this design, drawn by our own artist, we have endeavored to show every late improvement made in this class of carriages, and think we have succeeded in producing a very fine drawing. The employment of elliptic and C-springs, in combination with the perch, renders a job of this description not only very safe, but easy riding.



For instructions how to build the circular boot, we must refer the reader to page 116, vol. ix, where he will find them circumstantially given. Additional information may also be found on pages 6 and 22 of the same volume. Wheels 3 feet 3 inches and 4 feet.

We give in connection with the above remarks, a design from our artist, for a lock intended to fasten the two halves of the Landau's roof together, when the head is raised, so as to be secure against falling unnecessarily.

IMPROVED VICTORIA PHAETON.

Illustrated on Plate XIV.

SINCE 1851, when the builder exhibited the original in London, made for Queen Victoria, this kind of Phaeton has been much improved. We have, however, seen none which pleases us better than the one designed by our own artist, found on the above plate. A cant of the body is given on page 53, with full explanations for building. Wheels 3 feet 6 inches and 4 feet; hubs $4\frac{1}{2}$x$6\frac{1}{2}$ inches; spokes $1\frac{1}{8}$ inches, and rims $1\frac{1}{8}$ inch.

DOG-CART.

Illustrated on Plate XV.

FOR this original design for a dog-cart, we are indebted to James B. Cone, Esq., of this city, whose kindness has on former occasions enabled us to enrich our pages with some excellent drawings. This, as will be seen, is not intended for hunting, and might with more propriety be called a Dog-cart Phaeton, as it is hung off on four wheels. The back seat is made to turn in, at will, so that it may be used for either two or four passengers. The wheels are 3 feet 4 inches, and 4 feet 1 inch.

SHIFTING-SEAT CUTTER.

Illustrated on Plate XVI.

THE original for this drawing was furnished by Messrs. Bowen, Curtis & Co., of Kingston, Ulster county, New York, to whom we are under obligations for favors heretofore shown us. The front seat, intended to shift or take away entirely, accommodates the sleigh to either two or four passengers, as may be called for, necessitating but a little longer body than is required for a cutter, to which this sleigh may be converted when the shifting seat is removed. The arms connected with the back seat, instead of being trimmed with leather, are panel on the outside, with inside linings—this panel overlapping the lower one so as to form a sort of moulding as in the cutter on plate x of this volume.

NEW YORK BUGGY.

Illustrated on Plate XVI.

THIS design is a contribution from Messrs. Brewster & Co., of Broome street, New York city. There are some decidedly original points about it, differing from anything we have published before, both in the front pillar and the back of the body. We repeat that we have previously announced—this house are regular monthly contributors to our Magazine, and no other.

Sparks from the Anvil.

MORE OF THE CLIP KING-BOLT.

WE have on several occasions alluded to the patents which have been obtained in connection with king-bolts since we published the original in our first volume. More than a year ago we told our readers just what the Phelps patent covered, and, as we think, showed conclusively, that he had no right to claim damages on the old bolt, as commonly used. That our new readers may see his claims, and protect themselves under certain circumstances, we shall reprint a passage from his letters patent, a copy of which from Washington may be seen at

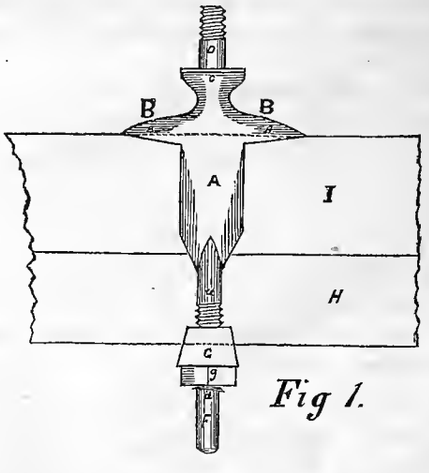


Fig 1.

this office. The amended claim of the applicant [after several rejections fully narrated in volume viii of this work] reads as follows: "What I claim as my invention, and desire to secure by letters patent, is the projecting shoulders or bearings B B resting on the axle, at the forks of the king-bolt, for the purpose herein specified."

We also give a diagram, showing the patented claim, so that no one may be ignorant of the facts, and pay away his money foolishly.

The validity of the patent to "the projecting shoulders B B, resting on the axle," is a question long since settled in our mind, for these were added by several manufacturers in this city, long before Phelps obtained his patent, as can be shown by the vehicles to which they were applied, now running. We have been led to refer to this subject from hearing that parties are again using our name as endorsers to their claims, without sufficient authority for so doing. We do not wish to be considered as indorsing the *validity* of the Phelps king-bolt *in any shape*, and trust our friends will not be influenced by any document they may have presented, until they have given it a careful reading. Don't be satisfied with merely a show of paper, and verbal interpretation.

BOLT NUTS.

Some of our cotemporaries have devoted considerable space to the consideration of the form in which a bolt-nut should be made. In our judgment the "form" is of secondary importance to the *quality*. It is well to have a nut suited in size to the bolt, and in shape to the purpose for which it is designed; but, the quality after all is the great desideratum. A nut to be useful in carriage-making should always be made from the very best iron, worked up solid on a manvil, under a welding heat, so as to neither split nor break under the process of tapping, nor in screwing up.

The greatest objection we find in the bolts made by machinery is, the nuts are too often *cut* from the sheet, and improperly fitted, often so loose as to fall off soon after the vehicle leaves the shop. Such is the defect with many of the bolts of our favorite makers, caused by the carelessness of workmen, and a desire to cheapen the price. For carriage work, subjected as it is to the rudest treatment, the greatest care should be taken in making and fitting, and a small advance in the price amply covering the difference in expense, would not be felt—would be an actual saving—taking into account the loss we now sustain in discarded bolts on account of the defects we have mentioned.

Very economical manufacturers—at least they think they are—direct their employees to work up the scrap-iron they make in carrying on business, into nuts. This we think poor economy. When we take into consideration the costs of labor in our day, and the risks of getting hold of a bad piece of iron in the process (sure to fail), this kind of economy must be pronounced a decided failure. The loss of time involved will amount to more than the extra costs incurred in purchasing the best Norway iron. Try the experiment as we have done, and you will then *feel* the force of our remarks.

Paint Room.

WOOD FILLING IN PAINTING CARRIAGES.

There are now some three or four articles before the public, each claiming to be the best ever invented, the object of which is to shorten the process and cheapen the expense of painting carriages and railroad cars. None of these, probably, has been so thoroughly tested, and found so valuable by experiment, as W. Piotrowski's, advertised in our pages. We do not give this opinion from hearsay alone; we say it from actual observation. We have seen a "Brewster wagon" painted according to this new system, which has stood the effects of the elements and damages from usage, with the most gratifying results; looking, after receiving a coat of varnish, at the end of two years, nearly as good as new. So tough and firm is this "wood filling," that it neither cracks nor allows the superincumbent coats to peel off, as when the old process is followed, and which in painting a new job requires but about half as much time to finish. So far is Piotrowski's filling in advance of some others, that it has stirred up their envy, and led the proprietors to resort to the most dishonorable subterfuges, even going so far as to say that the Piotrowski article was no longer manufactured. So far is this from truth, that the Messrs. Valentine & Co. are supplying it in any quantities called for, and many of the leading carriage-makers in this city, and other places, are using it exclusively, with the most satisfactory results. As this process is destined to entirely supersede all others in a very few years, we add some instructions as to its use, from the proprietor's circular.

In Painting a Body.—When the body is taken into the paint room (in the wood) first rub it down smooth with pumice stone, after which dust it off very clean and then for *the first* coat, give it an even one of the "permanent wood filling." After this first coat gets thoroughly dry, then apply a coat of "rough stuff," made slightly elastic with a mixture of oil and varnish, and when this second coat is well hardened, putty up where needed. After the putty is dry, next add one or two coats of the ordinary hard rough stuff, rubbing this all down when sufficiently dry, as in the usual way. Over the whole lay your color and varnish, as under the old system of lead painting.

Bodies very smoothly finished may be painted without using the two coats of rough stuff mentioned above, in the following manner:—After facing the surface down smooth with lump pumice, and giving it a good dusting off, then apply a coat of the filling, which filling must be rubbed at once while wet. This too must be done with lump pumice until a smooth and level surface is obtained. Next wipe off the surface with cloths, and let the job stand for twelve hours or more to dry; after which dust it off well, and apply a second coat of filling carefully laid on and not too heavy. After this gets sufficiently hard, sand-paper it down lightly to remove the dust and runs, and then having dusted it off well, next apply a coat of elastic color ground in oil and varnish. Afterwards putty up, finishing as usual. On the *ash-wood parts* of large bodies, it is well to apply two coats of "rough stuff" over the filling, or a coat of putty as preferred.

For *Carriage-parts*, sand paper down the wood smoothly, dust off and apply a coat of the filling, which when dry, again rub down with sand paper, and dust off, afterwards giving the whole (wood and metal) an even coat of the filling. When this last coat is dry, putty up where necessary. When this putty is dry, sand paper *lightly* to remove dust and runs; dust off, and spread a light coat of elastic color ground in oil and varnish, (no "dead" colors should be used,) and finish the whole in the usual way.

The following general remarks will be found useful:

Two coats of Rough Stuff on light bodies, and three coats on heavy bodies, will be sufficient. Light and air will aid the drying of the Filling. Springs and iron work require one thin coat only. A very light coat between leaves of springs will prevent rust. Nothing must be added to thin the Filling; when found too heavy to work evenly, the can may be placed in boiling water, on a stove, which will thin it sufficiently. Avoid cutting through Rough Stuff to Filling. When this happens, repair the break by rubbing in a little of the filling.

Wheels should be primed with the Filling as soon as they leave the workman's hands, no matter how long they are to remain unfinished, as neither time or exposure injures it,—this priming to count as one of the coats named in the instructions.

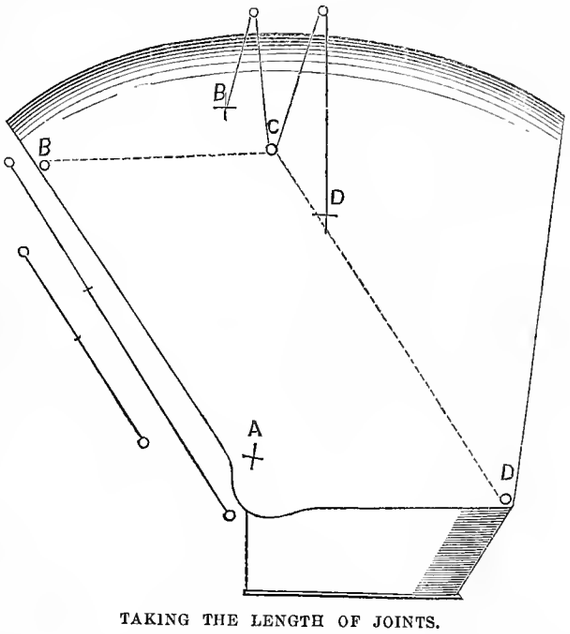
Avoid the use of turpentine in this system where possible. As the Filling totally excludes the air from wood, it must not be used as a priming on *green* hubs, as it will "sour" the sap and prevent seasoning. Hubs already primed with lead must be sand-papered closely before applying the Filling.

With the foregoing instructions it is believed that no difficulties will be encountered; if any should appear, correspondence with the inventor (through his agents) will receive prompt attention, as will any suggestions of a practical character from the intelligent carriage painters throughout the country, as the inventor well knows that to their judgment and discretion his system will in a great measure owe its first success in shops where it is not already known through his personal instructions.

Trimming Room.

DRAFTING TOP JOINTS.

MR. EDITOR:—My attention has been called to the subject of taking the length of top joints, by seeing your method given in the August number of the Magazine. I think it objectionable for several reasons, one of which is you have to let the top down before taking them. Every one knows, or ought to know, that is a thing that should not be done until the carriage leaves the factory. The leather should be preserved from "creasing" so as to save your top curve as nearly perfect as possible until it reaches the salesroom, as it adds twenty per cent. to the good appearance of the carriage afterwards. The top once let down it can never be restored to its original smoothly finished state.



TAKING THE LENGTH OF JOINTS.

The following method is a little more scientific, and on the whole I think preferable, as it can be more easily accomplished. Begin by marking the length of your joints on a piece of board. After the leather is drawn on the bows, make a dot with chalk exactly over the rivet of the slat-irons A, then take the length from A to the front prop B, afterwards marking that distance on the leather, about four inches in front of the middle prop. This done, next take the measure from A to the back prop D, and likewise mark that distance on the leather about five inches back of the middle prop C; next, to find where the knuckle should come, take a string the length of the joints and double it to suit the lay of the joints as shown at B C and D on the diagram; then straighten the string on the board and mark where the string has been doubled, which gives the point for the knuckles. By adopting this plan, you will become satisfied of its simplicity. AN OBSERVER.

Editor's Work-bench.

EIGHT-HOUR MUDDLE.

CONGRESS and several States of the Union have, under the force of political influence, passed laws making eight hours a day's work, for men employed on Government work, beyond which, in our judgment, they have no constitutional right to legislate. In many localities working men have seized upon this circumstance to demand from private individuals a recognition of this law in dealing with them. To enforce this recognition "strikes" have been ordered, and in many cases force used to secure this end, all with little success thus far. This has led the parties who are anxious for "less work and more pay," to clamor for still further legislation to enforce the law, and in these days of wonder and absurdity we shall not be surprised to yet find a law passed to suit these modern would-be reformers, which, Pandora-box-like, will prove a source of numberless evils.

Thus far the coach-makers have not entered upon this subject with much earnestness, but the history of the Bricklayers' strike now in progress in New York City, is a fair illustration of the evil effects of combination upon trade, under the leadership of unprincipled demagogues and their abettors. The wages formerly paid this class of mechanics was five dollars a day for ten hours work. This would give a steady man thirty dollars a week, with which the honest portion were content; but the dissatisfied, made up of drunkards and loafers, wanted to work under the eight-hour enactment, and to introduce it offered to

take four dollars and fifty cents for eight hours labor, as a sort of opening wedge to eight hours and five dollars hereafter. Mr. McLean, one of the members of the "Master Masons' Society," has figured out the result of working eight hours at four dollars and fifty cents, and shown that it will prove disastrous to the workman. He says: Allowing the cost of living to be $15 per week, rent $20 per month, and taking the rate of wages to be $4.50 per day, if the journeyman worked only nine months in the year, his earnings would not equal his necessary expenses. Allowing the same amounts for cost of living and for rent, adding $30 for clothing for himself, $30 for his wife, $50 for his children, and for boots and shoes, and $1 per week for spending money, with wages at $5 per day, and nine and one-half month's work per year (the ten hours wages) the same family could be supported. On the other hand, according to the eight-hour plan, the man would find himself deficient just $239.50 for defraying actual expenses. Under these circumstances a curtailment of one-fifth of the producing power seemed to the speaker to be the height of folly on the part of the men. There was no progress in it; it was going backward. Suppose the farmers should adopt this plan, and plant one-fifth less corn than they now do, there would be none to export.

The strike alluded to above has been some two months in progress, on the part of the operatives, and as the employers in imitation of their employees have organized themselves into a Union, and daily meet to compare notes and encourage each other in resistance to the demands of their men, it is difficult to say when it will end. Meanwhile business is suffering, loss being entailed on both sides, the working men doubtless *laying in* for themselves and families a store of starvation for the coming winter. When will the masses find out, that in combination they are arresting the laws of trade, and committing an offense against civilization? The lessons of the past, one would think, ought to have done this long ago.

The idea that men will do just as much work in eight as ten hours, as some affirm, is "all moonshine." Then twenty per cent. of the labor of the country must be lost, and the country that much impoverished. This will open our market effectually to competition from abroad, disastrous alike to employer and employed, unless our Government puts a stop to it by prohibitory taxation. Such a course would certainly be followed by retaliatory laws in Europe and elsewhere, leading us into complicated diplomacy from which it might be difficult to extricate ourselves, and prove fearfully disastrous in the finale.

We have in a former paper seen that even now carriages could be built in Paris and Berlin much cheaper than among us, where everything is purchased at an enormous expense. The only hope of escape we have in this case, is that these foreign products meet with no favor among our people, and therefore not likely to injure us much at present. It is, however, quite different with many other articles, and must, if the eight-hour law prevails, prove our ruin.

There is one fact which seems to have escaped the minds of poor men, clamorous for an abridgment of the hours of labor, and this is that every necessary of life will be twenty per cent. advanced. If Mr. McLean's figures as given above, are ruinous to the workman at the present costs of living, how much more difficult must it be to live under the eight-hour rule, with everything twenty per cent. dearer, as they assuredly will be. It is melancholy to contemplate the result—starvation, rioting, death!

REVIEW OF TRADE.

TRADE at present is extremely dull, especially in the carriage line. This state of affairs is not unusual at this time of the year, when everybody is supposed to be out of town, and might pass without notice, had it not been so generally in the middle and western States, nearly the entire season. It is true that there have been a few isolated shops where nearly all the work made has gone off, but generally at ill-paying rates. In some of the eastern States business has been better. In Boston, which we visited in August, we found carriage-making had been extremely prosperous the entire season, and manufacturers generally in the best of spirits.

In this city great complaint has been made that visitors come and go without purchasing. As a general thing, trade—what there was of it—has been almost entirely monopolized by a few houses, and this we fear is likely to become general hereafter, unless some of our manufacturers take a little more pains and expend a little more money in producing first-class work. It is very manifest that in the absence of extended Southern trade, there will for some time remain very little call for second or an indifferent class of work made in the country. Such can be disposed of at home to better advantage, or if not, had better be left in the rough material, than after working-up, to be sacrificed in the sale, here.

One of the most significant signs of the times is seen in the columns of the daily papers, where almost every manufacturer—respectable ones too—figures in an advertisement offering his wares for sale, some of them at a much reduced rate. We are sorry to see this, as it not only has a tendency to cheapen carriages, but shows a very sickly state of trade, and is calculated to work much injury in the future. The purchaser who reasons from analogy is likely to conclude, that if a manufacturer, at present high rates for labor and material, can afford to sell at a reduction of thirty per cent. under prices ruling twelve months ago, and live, that, heretofore, he has been paying too large a profit for the benefit of the

producer, and will at another time use his conclusions to the serious disadvantage of those immediately concerned. Such a step should not be taken, even temporarily in dull times, as it—under no circumstances—can be made successful.

We need in this country a better understanding among manufacturers, and to accomplish the desired object they ought to form associations for the mutual benefit of all. This would bring employers face to face, at least once a month, where their social and mechanical interests would be promoted, by the establishment of a more uniform system of prices, and they besides be in a condition to make provision against the unjust and unreasonable legislation of Union demagogues. Until this is done, we must expect to hear of strikes and rumors of strikes, to the ruin of trade, and the great perplexity of those engaged therein.

SHALL MECHANICAL ART DIE OUT?

THIS is a question of the deepest interest to every well-wisher for the prosperity of this country, in view of the fact that such a thing as serving an apprenticeship to a trade, is almost entirely abandoned. We have it upon the best authority from Europe, that mechanics there, as here, are getting scarce, and that we are not likely longer to be supplied from that quarter, as we have been for twenty years or more. What then are we to do? Shall art die for lack of workmen? Or if not die, shall it *sicken* under the hands of *improvised* mechanics? The "Internationals" forbid our taking more apprentices than they choose to name, and threaten that should we do so, they will not work with them, and that should we employ non-Unionists they will brand them as "scabs." This certainly is a *sore* state of affairs "from the crown of the head to the sole of the foot," enough to make any modern Job out of patience. Not content with defining the number, these agitators and reformers undertake to exercise the assumed right of determining the exact age at which apprentices must go to a trade, how many years they must serve, and demanding that they must be indentured, say these indentures must be submitted to their supervision and approval before they are signed. All this action has for its object the selfish one of reducing the labor market to a monopoly, in which they hope to command inflated wages, *and be decided masters of the situation.* This would obviate the necessity of employing either money or brains in carrying on business, and place all workingmen in the position they have long coveted, where they could say—as they have told us they would—"We are your masters now, you must do as we bid you.'

But the foregoing is not all on which the Unions place a veto. Some will not even allow a man to take a tool in his own hands, to labor on his own job, even though he be a practical mechanic, as this has a tendency to destroy their coveted monopoly of labor. We have been accustomed to hear much, in these latter days, about the dignity of labor, and to our mind there cannot be found a shorter road to it, than by setting every boss in the country to work. By thus laboring with their men, "they would magnify their office," increase their wealth, and promote their health. But this would not answer; it would lessen dependence upon hired labor, and injure the market. In some instances a mechanic has been forbidden to teach his son his own trade. Will these outrageous demands, in this land of freedom, much longer be endured? With you weak-kneed employers rests the solution of this question.

A NEW CHART.

OUR stock of charts has become so much exhausted, and calls are so urgent, that we have been compelled by the force of circumstances to issue another—No. 6. This is made up of the best engravings published in this Magazine during the past year, which for originality and correctness in showing the fashions, is far ahead of all others. In the list of designs will be found nine top buggies, six no-tops, four rockaways, two cabriolets, one phaeton, two physician's phaetons, and one victoria,—twenty-five in all,—making altogether the most desirable chart ever published. The price of this chart, printed uniform with the one published last year, will be $1. When Nos. 5 and 6 are ordered together, one copy of each, the price for the two will be $1.75.

Numbers 2, 3 and 4, can no longer be had, our editions being all sold. Numbers 5 and 6 being made up chiefly of the lighter class of carriages, are suited for the office of the larger proportion of the manufactories in the United States, and are invaluable as auxiliaries in securing orders for carriages. Our regular subscribers who may already have these designs in book form, will find them handy in the office, as in the chart form the customer will have a variety at one view before his eyes, from which to select, or make suggestions in leaving his orders for building new carriages. These charts will be mailed punctually on receipt of price, to any address. Send on your orders at once if you would secure a copy, as our edition is small.

ORIGINAL MONOGRAMS.

IN the October number of this Magazine we shall begin a series of monograms, to be continued one at least, each month. These will all be designed expressly for us, by the best artist we know of in this line of business. We hope soon to complete arrangements for supplying our customers with original combinations of such initials as they send us, at a reasonable charge. This offer will enable our country friends to put the initials of their customers on the panels of carriages sold, equal to any done in this city.

EDITORIAL CHIPS AND SHAVINGS.

Yankee Speculation.—Yankee enterprise is world-renowned. The latest phase is illustrated by the shrewdness of a citizen of Springfield, Mass., who, with his pockets full of tickets purchased at a discount, gets into an omnibus, taking a front seat. When any passenger offers to pay his fare, this *obliging* speculator takes the "stamps," puts them in his pocket, and passes up a ticket instead. The fare being ten cents and a ticket costing but nine, he makes a penny profit every time.

Bricklayers' Strike.—The beauties of a strike are seen in the confession of a Union member of the eight-hour persuasion. Working for $4.50 a day, on the eight-hour plan, and giving one-third of his wages to the strikers in idleness, he finds that it is a losing business; whereas had he kept out of the Union and gone on with his ten hours at $5, he would have done much better.

Travel in Olden Time.—In June, 1800, Uriah Tracy, of Litchfield, Conn., was summoned to Washington and received an appointment as commissioner to examine into the actual state of the Indian trading-houses at the Northwest. His accounts are preserved, and the following items show the time and cost of the journey between New York and Washington then:—June 20. Stage fare from New York to Philadelphia, $5; expenses on the road to Philadelphia, $3.75; expenses in Philadelphia, $7.25. June 22. Stage fare from Philadelphia to Baltimore, $8; expenses on the road to Baltimore—expenses at Baltimore, $4.12½. June 25. Stage fare from Baltimore to Washington, $3.50; expenses on the road to Washington, $2.25. Thirty-three dollars and sixty-two and a half cents for expenses on a journey which now costs $8.50, and occupies one day instead of five.

Army Wagons for the Plains.—The cumbersome equipage of our regular army system has been found rather an impediment than otherwise to effective fighting on the Plains. The difficulty promises to be overcome by an invention suited to that mode of warfare. We append a description thereof taken from a Fort Harker correspondence to the *Army and Navy Journal.*

Sir: It having for years been the study of experienced officers of the army—particularly those stationed upon the Western frontier—to adopt some quick method of transportation in cases of Indian depredations, very many suggestions have been offered, but none have come under my observation so near the desired object as a wagon that is being constructed by Brig. Gen. Alfred Sully, now commanding the District of the Upper Arkansas. To give you a slight description: It will consist of a four-wheeled carriage, the wheels all of a size, and in height about the same as the rear wheels of the ordinary army ambulance; they are much broader, however, and stouter, being constructed to endure the most severe service; the body is about the same as the army ambulance in size, except that the sides are much lower; the seats run through the centre, and will seat comfortably four on each side, sitting back to back; there is also a rear seat which will seat two or even three men; ample room is provided under the seats for provisions, ammunition, &c.; the springs are elliptic. This carriage can be run over the prairies with great speed, say forty miles per day, and can be drawn by four or six mules, and got ready for an expedition in less than half an hour, thus avoiding the usual delay. The animals used to pull this carriage, when not on duty with them, can be used for all other post duty. The present system of keeping at each post nearly two hundred horses, at an enormous expenditure, can be avoided. All available men can be run over the country with this Indian carriage, and after a ride of even forty miles be in good fighting condition, and not worn out by the fatiguing march. We anticipate that the Government will in due time adopt these carriages for the Plains, as it will, undoubtedly, save many thousands of dollars, and meet with the entire approbation of army officers.

Large Sales of Wagons.—The wagon trade of Milwaukee has been very large this year. Since January, three firms have sold 2,750 vehicles of different kinds.

Sleigh Bells.—The *American Artisan* says that the first sleigh bells manufactured in America were made at Chatham, Connecticut, and that that town still enjoys a monopoly of this species of manufacturing, having seven factories within its limits that are devoted to it.

LITERARY NOTICES.

Messrs. Brewster & Baldwin, the enterprising carriage builders of this city, have placed in our hands a very fine *Illustrated Catalogue of Carriages*, which the reader will find advertised in its proper place in these pages. The book is in royal quarto form, containing about two hundred pages, on thick paper, illustrated with designs for some three hundred Coaches, Landaus, Bretts, Rockaways, Phaetons, Dog-carts, Buggies, &c., with a few monograms, coats of arms and specimens of striping for spokes, these latter chiefly in colors. The title-page, printed in various colored shades by Stone & Barron, is a beautiful example of modern art, seldom seen. We take the following from the preface to the volume: "In presenting to purchasers of carriages this catalogue as a guide in making their selections, the subscribers would call their attention to the fact, that the designs from which the engravings are made were photographed directly upon the engraver's blocks from carriages on sale in their repository, and are therefore more carefully delineated than those ordinarily given upon charts," an opinion from which we dissent, when applied to working designs, notwithstanding the advantages of the photographic art in getting out catalogues. This book is the handsomest yet issued by any carriage builder in this country, and we are told that the one thousand copies printed, cost over eight thousand dollars. Copies can be had by those who wish them for $10 each.

Country Homes and How to Save Money is the title of a new book by our friend and correspondent, S. Edwards Todd, agricultural editor of the *New York Times* and author of several works. This is a large 12 mo. book of about 600 pages, beautifully illustrated, with elegant, cheap and commodious villas and cozy cottages, with specific directions and suggestions to aid beginners in their efforts to obtain a home of their own. Practical suggestions are given about erecting all kinds of wooden buildings, stone, brick and concrete; and perspectives of cheap cottages are given with bills of all the necessary materials for completing the edifices. Plain and practical directions are given for laying out the grounds, digging and stoning wells, making cisterns, and doing all kinds of plain painting, whitewashing and calcimining within and without.

A few pages tell how to save money and buy a home. Young men, old men, boys and girls, will find this one of the most entertaining and instructive books that they have ever read. Every page tells something that a beginner wants to know about planning and erecting buildings; how to transact business; how to train one's self for usefulness; and how to be happy. A hundred pages embrace accounts of the agricultural advantages in South Jersey, with descriptions of Vineland, Bricksburg, Manchester, Tom's River, Atco, Hammonton and other rising villages in that part of the State, with descriptions of soil, and practical directions for choosing that of the best quality, and how to adapt crops to the soil.

The book may be had by addressing the author, 41 Park Row, N. Y.; at the office for $1.25, or by mail, postpaid, for $1.50.

The August number of *The Atlantic Monthly*, maintains its well-earned reputation of being one of the best periodicals issued in this country. Some idea of its worth may be gathered from the following table of contents: A remarkable case of "Physical Phenomena;" St Michael's Night; Convivial Songs; A Trip to Ischia; Ideal Property; To C. S.; Out on the Reef; Will the Coming Man Drink Wine? Worldly Wise; De Piscium Natura; Notre Dame and the Advent of Gothic Architecture; Cretan Days; A Modern Lettre de Cachet Reviewed; Lost and Found; The Footpath and Literary Notices and Reviews. Published by Ticknor and Fields, Boston.

Youthful as well as older readers will find in *Our Young Folks*, issued by the same house, some of the most entertaining reading for their summer retreats, to be had anywhere; entirely original, a feature which gives this publication advantages over all others. It is besides richly illustrated.

Patent Journal.

AMERICAN INVENTIONS.

May 12. (77,796) CARRIAGE-POLE TIP.—Alonzo Benedict, Albany, N. Y.: I claim a pole-tip, A B, substantially as and for the purpose described.

(77,797) SHAFT FOR VEHICLES.—William L. Blaisdell, Port Byron, N. Y.: I claim, *First*, The hollow foot B, of iron or other metal, when arranged as described for the purpose of uniting the shaft and cross-bar. *Second*, The combination of the hook D and shoe E, with the springs *e* and F, and foot B, all arranged and operating substantially as described for the purpose set forth.

(77,804) THILL-FASTENER.—Lyman Derby, New York, N. Y.: I claim, *First*, The combination of the slotted bolt C with the ear-pieces B, whether attached to the clip A or jack-plate, for securing the clip upon the axle, as sometimes used, for the purposes hereinbefore set forth. *Second*, In combination with the slotted bolt C, the tenoned or wedged-shape thill-iron E, having an oblong hole, F, in it, substantially as hereinbefore set forth, and for the purposes described. *Third*, In combination with the tenon-shaped thill-iron E, having a slot or hole, F, in it, the spring-latch G, substantially as described and for the purposes set forth.

(77,838) SEAT FOR VEHICLE.—Lewis Pray, Portland, Me.: I claim the combination of the jump-seat A, upheld by cross-legs *a a*, and pivoted, as shown and described, in combination with the sliding seat D of a vehicle-body, all substantially as and for the purpose set forth.

(77,880) CARRIAGE-SPRING.—Walter B. Higgins, San Francisco, Cal.: I claim the combination of the springs D D with the wooden-spring A, to form the connection of the same with the body of the carriage, substantially as described.

19. (77,977) HUB FOR CARRIAGE-WHEELS.—Harvey D. Haraden, Hartford, Vt.: I claim the improved supporter, A, or arrangement of disks, socket-rings, and radial connections, as set forth. Also, the combination and arrangement of the two separate cylinders or pieces of wood, B B, with the disks, the socket-rings, and these radial connections, arranged together and cast in one piece, as set forth.

(77,981) MODE OF SECURING TIRES TO WHEELS.—William H. Hovey, Holly, Mich.: I claim the securing of tire B to the rim A, by inserting between the same parallel bolts D D, provided with heads or plates C C, perforated to receive the ends of the bolts, and secured by riveting the same, substantially as described, and for the purposes set forth and shown.

(78,009) SPRING-WAGON SEAT.—Adam Reichart, Cogan Station, Pa.: I claim the combination of the ordinary wagon-seat A, of the springs C, constructed of iron, steel, brass, or other material, of the supports B fastened to said seat by hinges, and of the slides E E, for the purpose of elevating either end of the seat.

(78,034) WHIFFLE-TREE.—Harvey Webster, Cambridge, Vt.: I claim the plate A, with its grooves B and C, the spring-lever E, cast-off D, the spring F and draught-pin G, all arranged and operated as shown and described.

(78,035) THILL-COUPLING.—Harvey Webster, Cambridge, Vt.: I claim the wedge-plate A, bolt-holder or cap B, and the spring C, as applied to thill-couplings, and operated either by draught or pressure, all for the purpose herein specified.

(78,049) DRAUGHT-ATTACHMENT FOR VEHICLES.—W.P.Brooks, Bloomington, Ill.: I claim a draught-attachment or evener, composed of a bar, A, provided with bars C, having hooks *d' d''*, either or both, at its ends, in connection with the central bar B, with adjustable eye or loop *d*, attached, all constructed and arranged substantially in the manner as and for the purpose set forth.

(78,055) BOLT-CUTTER.—Alexander Carbnow, Pottsdam, N. Y. I claim the devices as arranged and shown in combination, as and for the purposes set forth.

(78,064) WHIFFLE-TREE EVENER.—Freeman N. Corbin, Champlain, N. Y.: I claim the combination of the double-tree B, clevises F F, bars E E, all arranged and applied to the draught-pole A, to operate in the manner substantially as and for the purpose set forth.

(78,141) TIRE-TIGHTENER.—Silas Shirley, Santa Clara, Cal.: I claim, in the tip B, having sockets for the felloes, the covers F F, substantially as and for the purpose herein described.

(78,143) CARRIAGE-WHEEL.—Anselmo B. Smith, Plattsmouth, Neb.: I claim, *First*, The wheel, consisting of the bevelled and dove-tailed spokes *b*, with the inner inclined ends resting upon the collar *d*, surrounding the tube C, and secured in place against the concave collar G by means of the loose collar F, and nut E, all constructed as described, for the purpose specified. *Second*, The securing of the hub on the axle by means of the slot *e* in the axle G, the key or slotted disk H and the screw-cap I, all arranged substantially as and for the purpose specified.

(78,162) SLED.—Seth Way, La Porte, Ind.: I claim the combination of the knees E E, head-block C, thimbles I I, braces J J, and tongue K, respectively, constructed and arranged substantially as set forth.

26. (78,201) DEVICE FOR UPSETTING TIRES.—A. H. Ford, Williamsfield, Ohio: I claim the combination of levers A A, pivoted together by an eccentric joint, with adjustable support E, and screw I, substantially as described.

(78,213) METHOD OF FORMING CARRIAGE-AXLES.—John Le Ferre, Charlestown, Mass.: I claim the method herein described of constructing a carriage-axle, A, namely, by placing

two or more steel or iron bars longitudinally, one upon the other, welding the same thoroughly together, then turning down the taper *b*, with the shoulder *m* thereon, and then adjusting on said taper *b*, and against the shoulder *m*, a suitable collar, 6, and washer, 7, all in the manner substantially as set forth.

(78,230) Welding the Ears of Elliptic Springs.—Joseph Palmer, Concord, N. H.: I claim the combination of the wedges F F, the drop A, the upper and lower dies C D, the slides *a b c d*, and end-pieces I I, all constructed and arranged as shown, and by means of which vertical and lateral blows are given at the same time, for the purpose set forth.

(78,240) Main-Bolt or Goose-Neck Stay on Carriages.—Albert B. Sheaffer, Ephrata, Pa.: I claim the socket *a*, in the enlarged curve B of the main-bolt stay A, when made substantially in the manner and for the purpose specified.

(78,246) Machine for Boring Hubs for Wagon-Wheels.—Joseph Wharff, Bangor, Me: I claim my improved arrangement and application of the hooked bar F′, the screws E′ H, and the lever-nut *c*, with respect to each other.

(78,340) Carriage.—James D. Van Hoevenbergh, Kingston, N. Y.: I claim the combination and arrangement of the notched side-plates D D, and inclined hooks H H, for fastening movable, seats, substantially as and for the purpose herein specified. Also, the India-rubber straps C C, under the springs B B, secured thereto, and arranged in combination therewith, substantially as and for the purpose herein set forth. Also, the brake-blocks P P, balanced by the counter-weights R R, in combination with the double whiffle-tree brake-bar N, and sliding tongue L, substantially as and for the purpose herein specified.

June 2. (78,416) Thill and Pole for Carriage.—James W. Bicknell, New York, N. Y.: I claim thills, or shafts, or poles, of vehicles, made, in whole or in part, of tubular metal, substantially as herein specified.

(78,420) Tire-Bending and Punching-Machine.—James M. Bryan, Penningtonville, Pa.: I claim, *First*, The arrangement, herein described and shown, of the levers B and C, supports B′ and D′, and stirrups C′ and *d*, for the purposes set forth. *Second*, The arrangement, herein described, of the rest E, rollers F F, adjustable die *d*2, and mandrel D, for the purposes set forth.

(78,439) Carriage-Spring.—George Douglass, Bridgeport, Conn.: I claim the insertion of India-rubber strips *b b*, in chambers or recesses *a a*, in the cast-metal socket or seat A of the spring, substantially in the manner as and for the purpose herein set forth.

(78,480) Wheel.—Henry Poth, Pittsburg, Pa.: I claim the hub-flanges *a a*, provided with corresponding wedge-feathers *b b*, when adapted to be drawn together by means of the differential screw-box *d e*, on which the screw-caps *g* are fitted, the tenons of the spokes being protected by elastic material *k*, all constructed and arranged as and for the purpose described.

(78,552) Antedated May 25, 1868.—Wagon for Advertising.—George W. Thompson, New York, N. Y.: I claim, *First*, The employment of the vertically-arranged revolving drum of advertisements or signs, substantially as and for the purposes herein shown. *Second*, The arrangement of the pulley J, with the guide-pulleys L L, and the pulley I, for transmitting motion to the axle F, substantially as and for the purpose stated.

(78,563) Carriage-Seat.—John H. Adams, Portland, Me.: I claim, *First*, The swinging hinged or pivoted bar *b*, either with or without the studs *h*, in combination with the projection *e*, the said bar *b* being attached, as set forth, to the carriage-sides, and capable of being fastened thereto, as set forth, and the projection *e* to the carriage-seat, as and for the purposes described. *Second*, The clamp *l*, in combination with the projection *e*, on the seat, as and for the purposes described, the said clamp *l* being secured as herein set forth.

(78,579) Thill-Coupling for Carriage.—Monroe M. Copp, Albion, N. Y.: I claim the convex-headed cap C, provided with the square shoulder *b* and screw-nut *k*, said head being recessed to receive one-half of the draw-bolt *h*, and form, with the recess of the bar A, a complete eye, and a shield to exclude dust from the same, in combination with the forked thill-iron B and jack A, arranged and operating substantially as and for the purposes set forth.

(78,609) Carriage-Thill.—Benjamin Robinson, Thomaston, Me.: I claim the arrangement of the cap *e* upon the projection *a*, the said cap being secured by bolts 1 and 2 in conjunction with the rubber piece *f*, the rigid bolt of the shaft, the sides 3 of the forked end of the shaft, the projection *h*, and either with the elastic strip, for the two purposes of rendering the shaft-holder adjustable and the shaft self-supporting, as described.

9. (78,737) Sleigh.—Chester Heald, Marshalltown, Iowa.: I claim a wrought or malleable-iron sleigh-knee *a a b*, when welded to a cast-iron runner, so as to form braces, and to equalize the weight of load on all parts of the runner, substantially as shown and described, in combination with a cross-beam plate, H, runners A, cross-beams D D, all substantially as shown and described, and for the purpose set forth.

(78,762) Wagon and Carriage-Brake.—Rodney Rice, Pittsfield, Vt., assignor to himself and J. H. Spaulding: I claim, *First*, The treadle *c*, levers *b b*, and links *a a*1, in combination with the brake-levers F F1, arranged and operating substantially as described. *Second*, The brake-levers F F1, provided at their inner ends with interlocking hooks, *f*, working in the loop G, substantially as and for the purpose described. *Third*, The independently-hinged brake-levers F F1, connected centrally by a sliding or hook-joint, and operated by means of levers and connecting-links, arranged substantially as described.

(78,836) Carriage-Top.—Eliphalet S. Scripture, Brooklyn, N. Y.: What I claim as new, and desire to secure by letters patent, is, not the circular corrugated wedge friction-surfaces as when made by themselves, as the same has been made by me, and described in my patent, dated January 7, 1868, for compasses, calipers, &c.; but, I wish to claim their application, as described, when combined with a carriage-seat and top, substantially in the manner and for the purposes set forth.

(78,841) Wagon-Brake.—James Harvey Smiley, Caroline, N. Y.: I claim the combination and arrangement, consisting of the slide C, the cord or cords F, levers G and H, and springs P, and pulleys, and rollers, and plates, as described, making a brake sliding out and against the wheels, and retracting out of sight, substantially as set forth.

16. (78,868) Single-Tree Brace.—Charles R. Elmer, Bridgeton, N. J.: I claim the combination and arrangement of the chain C and brace E with the beam A and single-tree F, substantially upon the principle above described, and for the purpose set forth.

(78,913) Wagon.—Joseph F. Applegate, New Albany, Ind.: I claim, *First*, The perch-pole C, used in combination with the case or sheath of the rear hounds, substantially as and for the purpose set forth. *Second*, The body G, provided with the stops I and J, and used in combination with the rollers *a a* and the extension perch-pole C, as and for the purpose set forth. *Third*, The extended king-bolt G, in combination with the body G and the perch-pole C, as and for the purpose set forth.

(78,822) Clamp or Hub-Boring Machine.—Gustavus V, Brecht, St. Louis, Mo.: I claim, as a new article of manufacture, a clamp, A, for a hub-boring machine, cast or formed with slots, for the reception of nuts, and provided with projections *a*, and serrated edges, as and for the purpose set forth.

(78,926) Tire-Setter.—Robert Cawthorne, Lyons, Iowa: I claim, *First*, The rests *c c c c*, for the purpose specified. *Second*, The arrangement and combination of the rests *c c c c* with the tub A, step H, standard E, platform J, nuts D and O, when operating substantially as and for the purposes herein set forth and specified.

(78,939) Sleigh.—John P. Dorman, Galesburg, Ill.: I claim the construction and arrangement of a sleigh or sled of malleable iron and zinc, substantially in the manner and for the purpose as herein set forth.

CURRENT PRICES FOR CARRIAGE MATERIALS.

CORRECTED MONTHLY FOR THE NEW YORK COACH-MAKER'S MAGAZINE.

NEW YORK, Aug. 18, 1868.

Apron hooks and rings, per gross, $1.25 *a* $1.75.
Axle-clips, according to length, per dozen, 50c. to 80c.
Axles, common (long stock), per lb, 7 1-2c.
Axles, plain taper, 1 in. and under, $5.50; 1⅛, $6.50; 1¼, $7.50; 1⅜, $9.50; 1½, $10.50.
Do. Swelled taper, 1 in. and under, $7.00; 1⅛, $7.50; 1¼, $8.75; 1⅜, $10.75; 1½, $13.00.
Do. Half pat., 1 in. $10; 1⅛, $11; 1¼, $13; 1⅜, $15.50; 1½, $18.50.
Do. do. Homogeneous steel, ⅝ in., $11.00; ¾, $11; ⅞, $12.00; long drafts, $2.50 extra.

☞ These are prices for first-class axles. Inferior class sold from $1 to $3 less.

Bands, plated rim, 3 in., $1.75; 3 in., $2, larger sizes proportionate.
Do. Mail patent, $3.00 *a* $5.00.
Do. galvanized, 3½ in. and under, $1; larger, $1 *a* $2.
Bent poles, each $1.00 to $1.50.
Do. rims, extra hickory, $2.75 to $3.50.
Do. seat rails, 50c. each, or $5.50 per doz.
Do. shafts, $6 to $9 per bundle of 6 pairs.
Bolts, Philadelphia, list. 30 off.
Do. T, per 100, $3 *a* $3.50.
Bows, per set, light, $1.00; heavy, $2.00.
Buckles, per grs. ½ in., $1, ⅝, $1.12; ¾, $1.25; ⅞, $1 75; 1, $2.00.
Buckram, per yard, 18 *a* 23c.
Burlap, per yard, 14 *a* 16c.
Buttons, japanned, per paper, 20c.; per large gross, $2.25.
Carriage-parts, buggy, carved, $4.50 *a* $6.
Carpets, Brussels, $1.75 *a* $2; velvet, $2.75 *a* $4; oil-cloth, 45 *a* 70c.
Castings, malleable iron, per lb, 16c.
Clip-kingbolts, each, 40c., or $4.50 per dozen.
Cloths, body, $3.50 *a* $5; lining, $2.50 *a* $3. (See *Enameled.*)

☞ A Union cloth, made expressly for carriages, and warranted not to fade, can be furnished for $2.50 per yard.

Cord, seaming, per lb, 35c.; netting, per yard, 8c.
Cotelines, per yard, $4 *a* $8.
Curtain frames, per dozen, $1.25 *a* $2.50.
Do. rollers, each, $1.50.
Damask, German cotton, double width, per piece, $15 *a* $22.
Dashes, buggy, $1.75.
Door-handles, stiff, $1 *a* $3; coach drop, per pair, $3 *a* $4.
Drugget, felt, $1.75 *a* $2.
Enameled cloth, muslin, 5-4, 40c.; 6-4, 75c.
Enameled Drills, 48 in., 55c.; 5-4, 50c.
Do. Ducks, 50 in., 75c.; 5-4, 70c.; 6-4, 80c.

☞ No quotations for other enameled goods.

Felloe plates, wrought, per lb., all sizes, 20c.
Felloes (Rims), $1.50 *a* $3.
Fifth-wheels, wrought, $1.50 *a* $2.00.
Fringes, festoon, per piece, $2; narrow, per yard, 18c.

☞ For a buggy-top two pieces are required, and sometimes three.

Do. silk bullion, per yard, 50c. *a* $1.
Do. worsted bullion, 4 in., 35c.
Do. worsted carpet, per yard, 8c. *a* 15c.
Frogs, 50c. *a* $1 per pair.
Glue, per lb, 25c. *a* 30c.
Hair, picked, per lb, 40c. to 65c.
Hubs, light, mortised, $1.20; unmortised, $1. Coach, mortised, $2.
Japan, per gal., $2.25.
Knobs, English, $1.40 *a* $1.50 per gross.
Laces, broad, silk, per yard, 60 *a* $1.25; narrow, 10c. to 16c.
Do. broad, worsted, per yard, 40c. *a* 50c.
Lamps, coach. $10 *a* $30 per pair.
Lazy backs, $9 per doz.
Leather, collar, dash, 29c.; split do., 15c. *a* 17c.; No. 1, top, 29c.; No, 2, enameled top, 27c.; enameled trimming, 27c.; harness, per lb., 50c.; flap, per foot, 25c.
Moss, per bale, 8c. *a* 15c.
Mouldings, plated, per foot, ¼ in. 14c.; ⅜, 16c. *a* 20c.; ½, lead, door, per piece, 40c.
Nails, lining, silver, per paper, 7c.; ivory, per gross, 50c.
Name-plates. (See Advertisement.)
Oils, boiled, per gal., $1.50.
Paints. White lead, extra, $14.00, pure, $15.00 per 100 lbs.; Eng. pat. black, 60c.
Poles, $1.25 *a* $2 each,
Pole-crabs, silver, $5 *a* $12; tips, $1.25 *a* $1.50.
Pole-eyes, (S) No. 1, $2.25; No. 2, $2.40; No. 3, $2.65; No. 4, $4.50 per pr.
Sand paper, per ream, under Nos. 2½ and under, $4.50.
Screws, gimlet, manufacturer's 30 per cent. off printed lists.
Do. ivory headed, per dozen, 50c. per gross, $5.50.
Scrims (for canvassing), 16c. *a* 22c.
Seats (carriage) $2 *a* $2.75 each.
Seat-rails, 75c. per doz.
Seat-risers, Linton's Patent, $2 per pair.
Seats, buggy, pieced rails, $1.75; solid rails, $2.12.
Shafts, $12 to $18 per doz.
Shaft-jacks (M. S. & S.'s), No. 1, $2.40; 2, $2.60; 3, $3.00.
Shaft-jacks, common, $1 *a* $1.35 per pair.
Do. tips, extra plated, per pair, 25c. *a* 50c.
Silk, curtain, per yard, $2 *a* $3.50.
Slat-irons, wrought, 4 bow, 75c. *a* 90c.; 5 bow, $1.00 per set.
Slides, ivory, white and black, per doz., $12; bone, per doz., $1.50 *a* $2.25; No. 18, $2.75 per doz.
Speaking tubes, each, $10.
Spindles, seat, per 100, $1.50 *a* $2.50.
Spring-bars, carved, per pair, $1.75.
Springs, black, 16c.; bright, 18c.; English (tempered), 21c.; Swedes (tempered), 26c.; 1¼ in., 1c. per lb. extra.
If under 34 in., 2c. per lb. additional.

☞ Two springs for a buggy weigh about 28 lbs. If both 4 plate, 34 to 40 lbs.

Spokes (Best Elizabethport), buggy, ⅞, 1 and 1⅛ in. 9½c. each; 1⅛ and 1¼ in. 9c. each; 1½ in. 10c. each. 10 off cash.

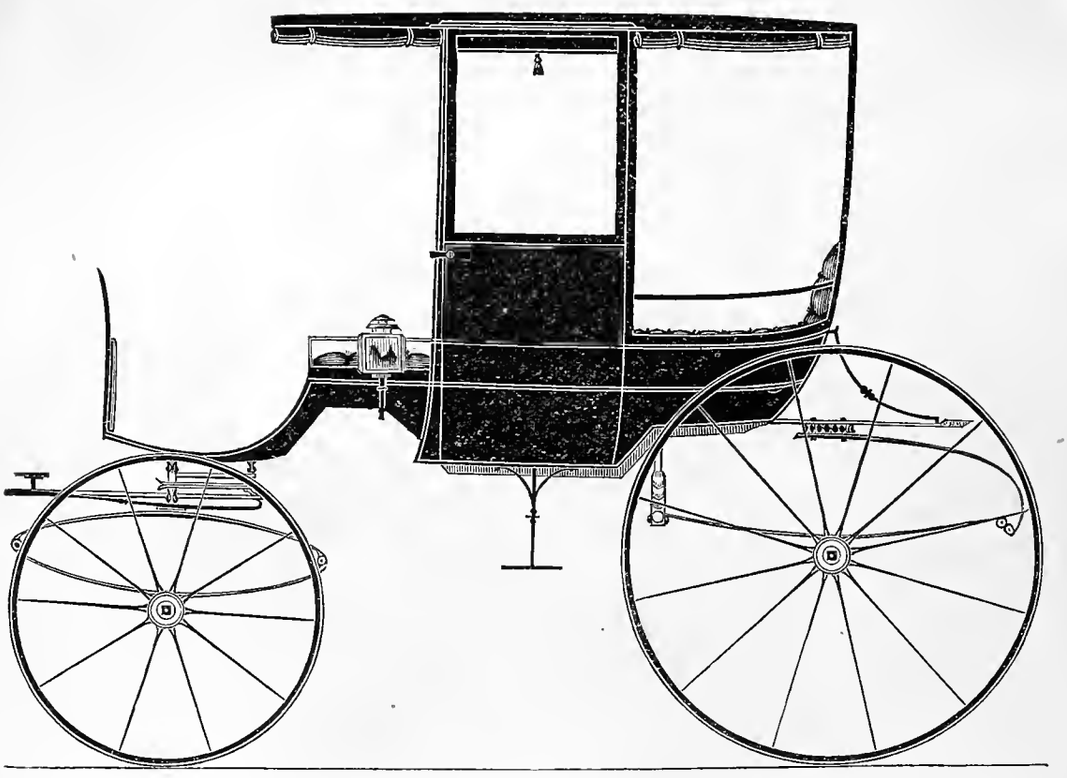
☞ For extra hickory the charges are 10c. *a* 12½c. each.

Steel, Farist Steel Co.'s Homogeneous Tire (net prices); 1 x 3–16, and 1 x 1-4, 20 cts.; 7-8 x 1-8 and 7-8 x 3-16, 23 cts.; 3-4 x 1-8, 25 cts.; 3-4 x 1-16, 28 cts.
Steel Tire—best Bessemer—net prices: 1-4 x 1 1-8, 15c.; 1-4 x 1, 15c.; 3-16 x 1 1-8, 16c.; 3-16 x 1, 16c.; 3-16 x 7-8, 17c,; 3-16 x 3-4, 17; 1-8 x 7-8, 20; 1-8 x 34; 1-16 x. 3-4, 23.
Stump-joints, per dozen, $1.40 *a* $2.
Tacks, 7c. and upwards.
Tassels, holder, per pair, $1 *a* $2; inside, per dozen, $5 *a* $12: acorn trigger, per dozen, $2.25.
Thread, linen, No. 25, $1.75; 30, $1.85; 35, $1.80.
Do. stitching, No. 10, $1.00; 3, $1.20; 12, $1.35, gold.
Do. Marshall's Machine, 432, $3.25; 532, $3.75; 632, $4, gold.
Top-props, Thos. Pat, wrought, per set 80c.; capped complete, $1.50.
Do. common, per set, 40c. Do. close-plated nuts and rivets, 75*a*80c.
Tufts, common flat, worsted, per gross, 15c.
Do. heavy black corded, worsted, per gross, $1.
Do. do. do. silk, per gross, $2.c. Do. ball, $1.
Turned collars, $1.25 *a* $3 per doz.
Turpentine, pr gl., 65c.
Twine, tufting, pr ball, 50c.; per lb, 85 *a* $1.
Varnishes (Amer.), crown coach-body, $5.00; nonpareil, $5.50.
Do. English, $6.25 in gold, or equivalent in currency.
Webbing, per piece, 65c.; per gross of 4 pieces, $2.40.
Wheels, $12 to 22.
Whiffle-trees, coach, turned, each, 50c.; per dozen, $4.50.
Whiffle-tree spring hooks, $4.50 per doz.
Whip-sockets, flexible rubber, $4.50 *a* $6 per dozen; hard rubber, $9 to $10 per doz.; leather imitation English, $5 per doz. common American, $3.50 *a* $4 per doz.
Window lifter plates, per dozen, $1.50.
Yokes, pole, 50c.; per doz, $5.50.
Yoke-tips, ext. plated, $1.50 pair.

TO READERS AND CORRESPONDENTS.

O. & S. OF OHIO.—We have several times stated in these pages that we would not execute orders for varnish, unless our friends sent the money when giving them. No agent will discount on English varnishes, and as our time is worth something, we must have 50 cents for every can of the foreign article we purchase, added to the market price.

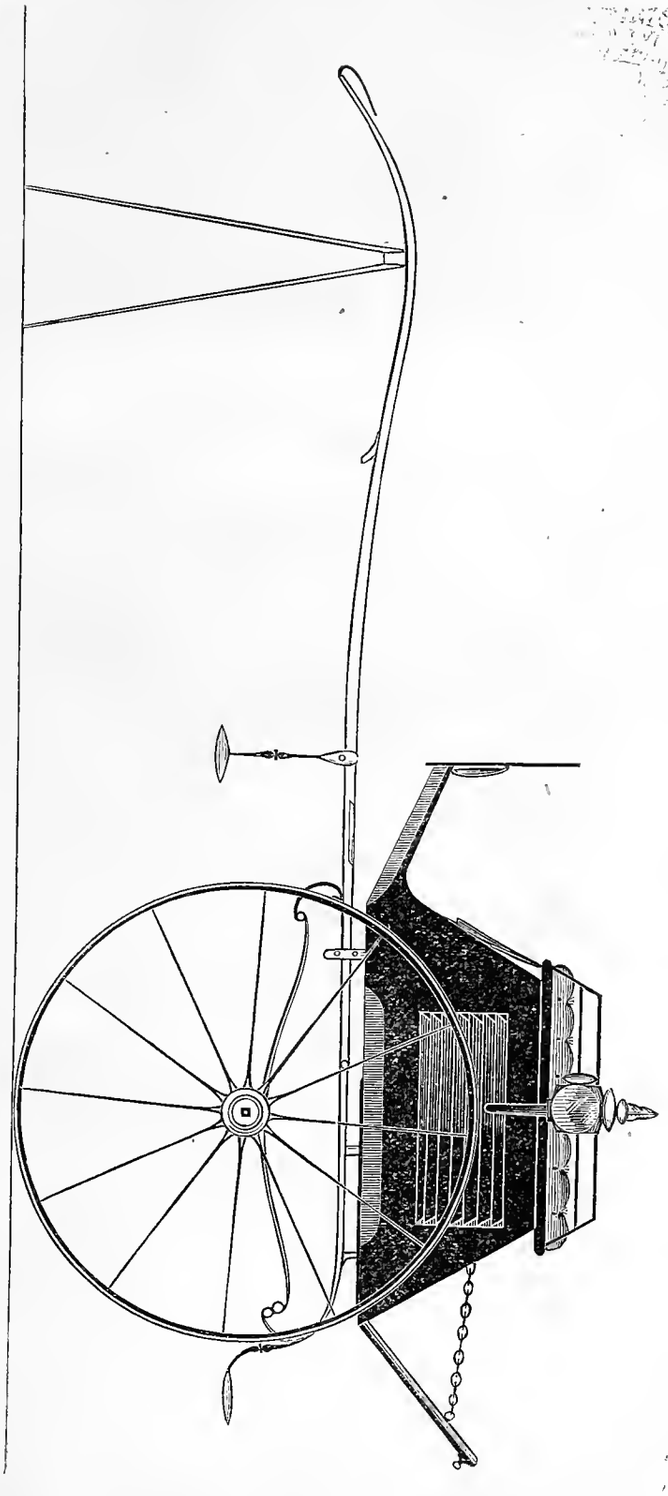
R. N. OF MASS.—We never give away a chart with the Magazine. The price of a chart is $1, and where a chart is added, this amount for each copy ordered, must be sent with subscriptions.



COUPE ROCKAWAY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

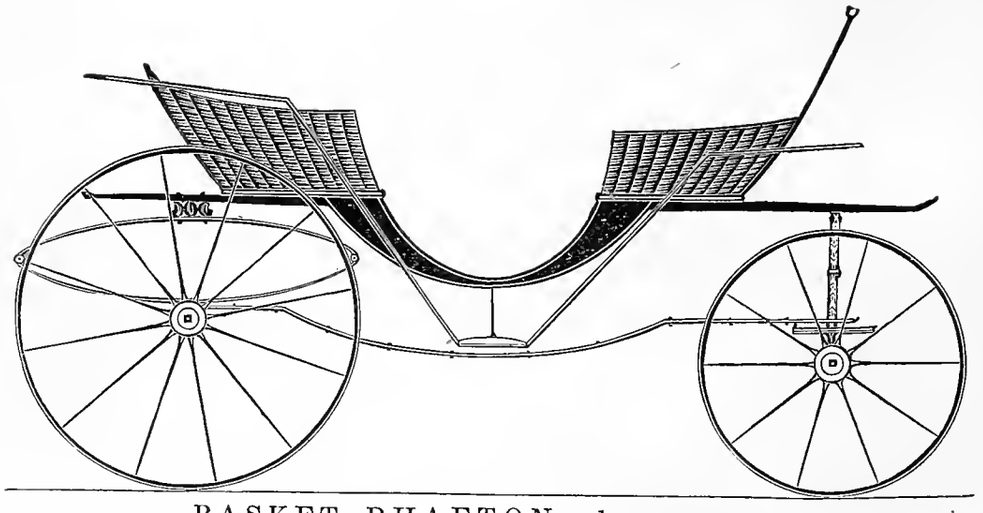
Explained on page 70.



DOG CART.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

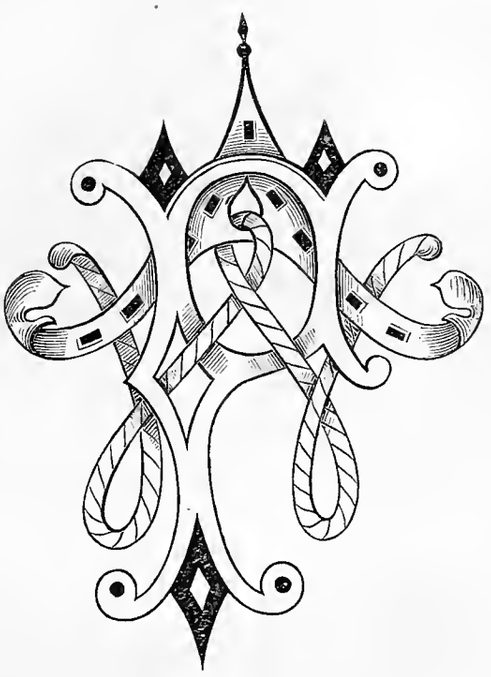
Explained on page 70.



BASKET PHAETON.—½ IN. SCALE.

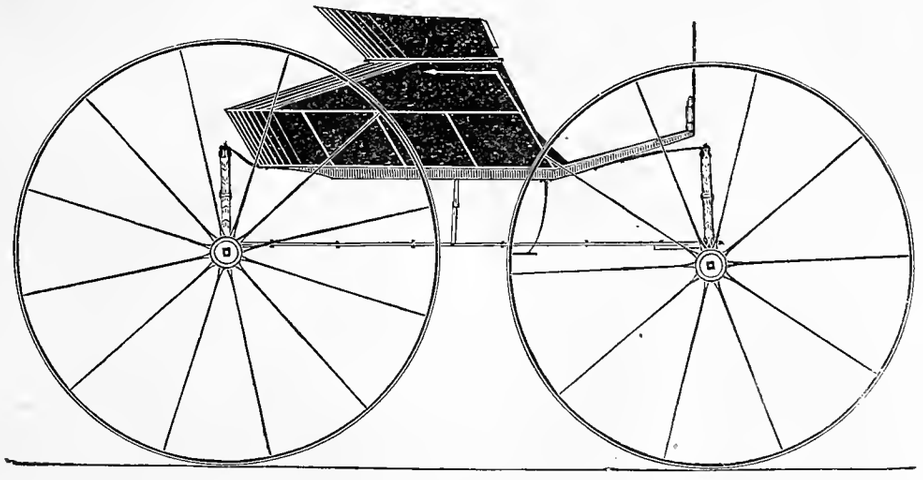
Designed expressly for the New York Coach-maker's Magazine.

Explained on page 70.



A. W. P.—ORIGINAL MONOGRAM.

See remarks on page 72.



EXCELSIOR BUGGY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 70.

THE NEW YORK
CARRIAGE-MAKER'S MAGAZINE

DEVOTED TO THE LITERARY, SOCIAL, AND MECHANICAL INTERESTS OF THE CRAFT.

Vol. X. NEW YORK, OCTOBER, 1868. No. 5.

Mechanical Literature.

THE LAWYER-MECHANIC.

BY H. S. WILLIAMS.

Among the many flourishing carriage factories in the South before "grim-visaged war" upset things generally, none could boast a better set of customers than John Grant's, in the beautiful and wealthy town of Prairieville. Now Mr. Grant, although he knew but little of the mysteries of carriage-making practically, having served his time in a country wagon-shop, yet, as he always hired the best jours to be had in that part of the country, he had firmly established an enviable reputation, and in truth his best work compared favorably with the majority of the *best* jobs from the North in style and durability, if not in finish. But Mr. Grant had his hobby, and it was this. He believed, and often asserted, that he had an intuitive knowledge of a man's mechanical abilities from his personal appearance.

"I knew he was a workman," he would say to his foreman, when he secured the services of an *extra* hand; "I knew it just by his looks. Can't fool me!" and he would turn to his ledger with a self-satisfied air, while the foreman would laugh to himself at the thought of the many times he had been taken in by tramping jours, who scarcely knew how to make a respectable wheelbarrow.

"Any chance for a smith to get a job to-day, sir?" and Mr. Grant turned from his accounts to behold one of the oddest specimens of the *genus homo* that had ever *kicked* him for a job. Picture to yourself a man of twenty-eight or thirty years dressed in the most careless, pitch-your-clothes-on style imaginable, and in connection with my attempted description perhaps you can form a faint idea of how he looked. A pair of copperas-colored jean pants, one leg within, the other without a pair of rough, thick-soled, cow-hide boots, said boots covered with dirt and dust, looking as though they had never been challenged by *Mason* to shine. No vest, but a shirt that sadly needed immersing in the wash-tub, a coat worn threadbare, buttonless, half the lining torn out and the rest hanging round loose, no cravat or collar, and a brown, wide-brimmed slouch hat, with several holes through the crown—such was the dress as Mr. Grant saw it. Had he gone further and looked at the *man*, he would have seen a broad, massive head, with a forehead almost as white as polished marble, a Grecian nose, a dark, piercing eye of that peculiar color, capable of changing under intense excitement or passion to a sparkling black, a small, firmly set mouth, almost hid from view by a full set of black, wiry beard, that together with his long, bushy hair, sadly needed an introduction to a barber's-shop. But Mr. Grant's perceptive faculties went no further than the dress, and in his short, crabbed way, replied: "No, not for you; want a *good* smith, but don't hire every thing that comes along," and he turned to his desk at the same time that the poor jour turned to the door and passed out as quietly as he had entered.

Soon after the bell rang for noon, and in ten minutes all hands had left the shop excepting a negro helper, who always remained to take care of things during the dinner hour. One o'clock arrived, and as the two jours employed in the smith-shop went to work, one of them found, hanging on the horn of his anvil, four pairs of tongs, with one handle of each pair so nicely welded together, that it excited his admiration to such a degree that he not only forgot to be angry at the trick played upon him, but caused him to call up his brother jour to see it. Just then the boss came in, and he too was called up. Now Mr. Grant was a good judge of work, and at a glance he sawthat whoever done that job was a master of his trade, for it was so solid that not a flaw could be detected in it, and as smooth as it could be made after half an hour's filing. Even his two jours—and he thought they were the best in the State—acknowledged that it would take a long time for them to make so perfect a weld. But still greater was their surprise on going to the second forge and there finding a single pair of tongs, on the end of one handle of which was forged a most perfect horse-shoe, scarcely larger than a silver dollar, while upon the other handle was a diminutive body-loop, of the prettiest shape and finish imaginable. After expressing their admiration for the work, Mr. Grant wondered who could have done it, and the helper was summoned to give the desired information. All he could tell, however, was that just after they had all gone to dinner, a strange looking man came in and

Entered, according to Act of Congress, in the year 1868, by E. M. Stratton in the Clerk's Office of the District Court of the United States for the Southern District of New York.

bidding him blow and strike, had done the work and been gone full ten minutes.

"How was he dressed?" asked Mr. Grant, hurriedly.

"He had on sort o' yaller breeches and had big black whiskers," answered the boy.

"The very chap that asked me for a job;" and he gave orders for the boy to go out and find him, and tell him to come back to the shop immediately. "Be sure you find him if you have to hunt all over town," he added, as the boy started on his errand.

In half an hour he returned and informed Mr. Grant that he found the man at the hotel, but he had refused to come to the shop, as he was going to leave directly after dinner. Upon this Mr. Grant started for the hotel. It was a good hour ere he returned, but when he did it was with the smith whose services he had managed to secure, but not without offering the very highest wages then paid; and so the next morning, that rather eccentric looking individual, who gave his name as Wells, went to work.

For a month every thing went smoothly. Wells passed most of the evenings in his room at the hotel, alone with his books, which seemed to constitute his entire baggage, and supplied the place of a wardrobe. Yet despite his slovenly habits and unsociable disposition, his shopmates not only gave him credit for being a good workman and clever fellow, but right well posted too, for he most decidedly got the better of a political argument with a young lawyer in the town, named Harvey, in one of the then common Sunday morning post-office disputes. So things went on until the incident we are about to narrate occurred. It was in this wise:

The youngest, and in fact the only apprentice in the shop, was a poor orphan boy, named Sherrod, about sixteen years of age; but whether he was learning woodwork, painting or trimming, would have puzzled the boss himself to tell, for he had him working at all these branches as the occasion demanded. But he was a good, easy, inoffensive creature, never known to grumble, no matter how hard the work, nor did he ever resent an insult, of which he had plenty; for being poor, friendless, alone in the world and so good-natured, he was imposed upon outrageously at times, and even the negroes employed about the establishment, thought themselves immeasurably above such "poo' white trash," and insulted him at times with impunity. But the time came when forbearance ceased to be a virtue.

One day he was in the smith-shop engaged in cleaning off an old carriage-part, ready for the paint-shop, when a negro boy, belonging to the above-mentioned Harvey, came in and inquired if some little job his master had ordered was done. As the smiths were all busy, Sherrod left his work to wait on him. Now your genuine Cuffee is an imitative creature, and the negroes belonging to the wealthy classes then had all their masters' insolent pride and contempt for poor whites, together with all their aristocratic notions about wealth. This negro belonged to a very wealthy family, and when he received the little job, he turned and was about leaving when Sherrod, who had received positive orders to let no small job go out without the cash, called him back and asked him if he did not have the money to pay for it. "Yes," answered the negro, "but not for you; I'll pay Mas'r Grant."

"He's not here, just now," returned Sherrod, "and you can pay me; it's all the same."

The negro slowly handed over the money, but as he did so, remarked: "Won't come here no more if I can't be waited upon by a gemman."

"What do you mean?" asked Sherrod, with more spirit than he had ever shown before.

"I mean," returned the negro, "dat I won't patronize dis 'stablishment if I hab to be waited on by such poor trash; I'll go to de oder shop fust! I'se a gemman's servant, I is!"

This was too much. The spirit of the boy, long dormant, was roused at last; and seizing a spring-bar on which he had been at work, he struck the insolent negro across the head and fairly knocked him out of the door. If it had been Mr. Grant himself, or even one of his jours, no notice would have been taken of it—only "served the impudent rascal right"—but a poor boy, not worth a dollar in the world, was a different thing, and an hour afterward he was arrested on a warrant sworn out by young Harvey, and confined in the jail. Ten o'clock the next morning was the hour for examining him before a justice of the peace. It was very brief. The only witnesses examined were the two jours in the smith-shop, and he was put under bail to the amount of five hundred dollars to appear at the next term of the county court, to answer the charge of "a felonious assault on the person of one Curtis, the property of Mr. Harvey, with intent to kill." Mr. Grant and his foreman promptly came forward and went his bail, when he was set at liberty. From some cause Mr. Wells was not called as a witness, although his forge was nearest the door where the difficulty occurred, but it was not thought of by the poor boy who was as ignorant of law as of everything else. Poor fellow! he met with no sympathy anywhere, and the month between his examination and the sitting of the county court was one of painful solicitude and horrible imaginings to him. "Pretty serious case," said Mr. Grant to him when he spoke of the matter, one day, "and I'm afraid they'll send you to the penitentiary."

"If I had a good lawyer to plead my case," said the boy, "perhaps I might get off; I done nothing more than what you would have done under the circumstances."

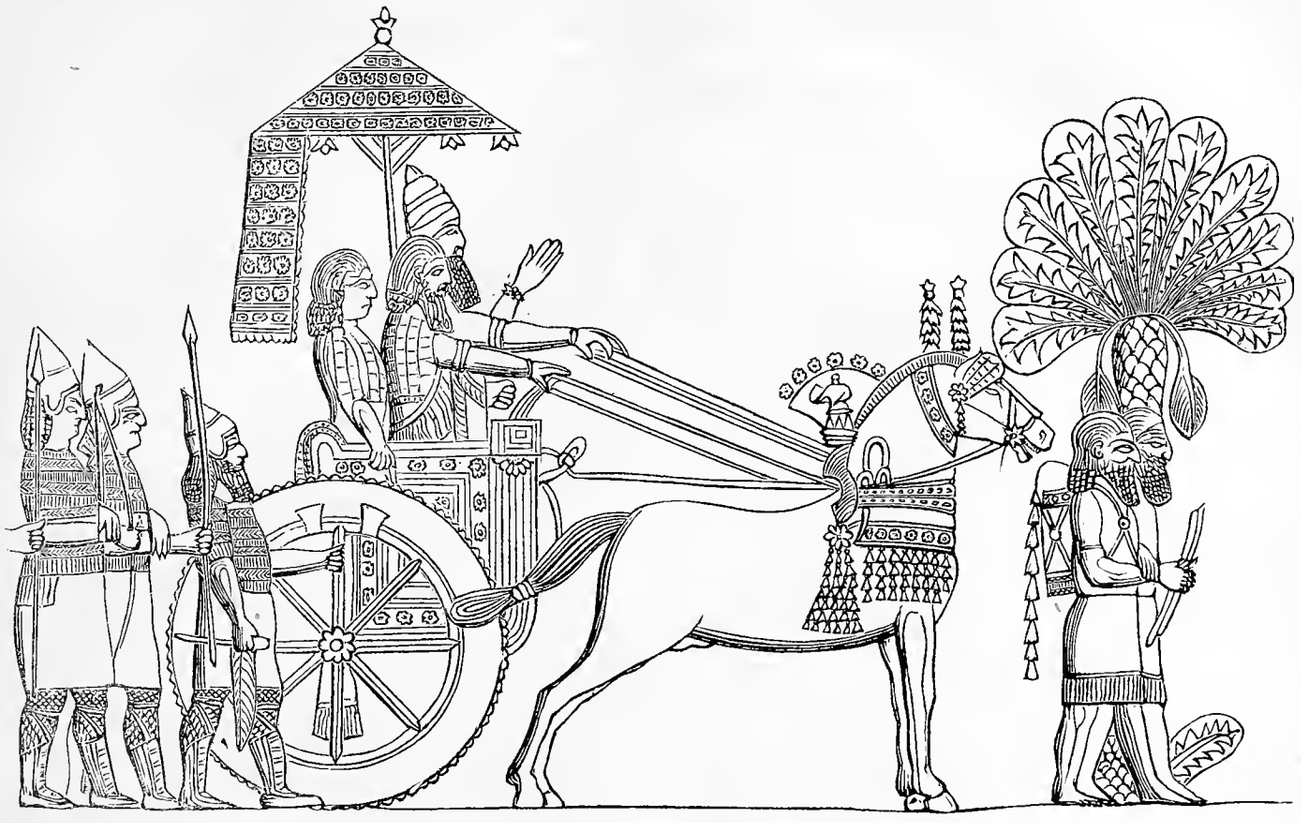
"Yes," said Mr. Grant, "but lawyers are very costly now-a-days. If you had fifty dollars to fee one with, it might be different; but as it is, you will have to go, I suppose."

"Alas!" said poor Sherrod, "I have no money, nor no friends," and he could only wait patiently for the terrible day to arrive.

(*To be concluded next month.*)

OUR ASSYRIAN CARRIAGE MUSEUM—V.

Passing over many other objects deeply interesting, we come to a plate numbered xlii, and find "the great king" Senacherib again; this time standing in his chariot before a besieged city, accompanied by his charioteer, and eunuch umbrella-bearer, holding an umbrella of peculiar make over his head. The chariot, which is attended by soldiers, is not much different from the last in outline, but is richer in finish. The artist evidently forgot to put a pole to his vehicle, a matter to be regretted. The harness in this instance is plainer than the last, and there is an ornament rising from the saddle, after an entirely new pattern. The appearance of the palm-tree, and other circumstances, favors the supposition that Armenia is intended as the country visited by Senacherib. The inscription in Assyrian characters, gives the history of the



SENACHERIB IN HIS CHARIOT BEFORE LACHISH—FROM A BAS-RELIEF AT KOUYUNJIK.

visit of Senacherib to Judea. This the reader may compare with the scriptural account; —it is as follows:

"Because Hezekiah, king of Judea, did not submit to my yoke, forty-six of his strong-fenced cities, and innumerable smaller towns which depended on them I took and plundered: but I left to him Jerusalem, his capital city, and some of the interior towns around it. ....And because Hezekiah still continued to refuse to pay me homage, I attacked and carried off the whole population, fixed and nomade, which dwelled around Jerusalem, with thirty talents of gold, and eight hundred talents of silver, the accumulated wealth of the nobles of Hezekiah's court, and of their daughters, with the officers of his palace, men-slaves and women-slaves. I returned to Nineveh, and I accounted their spoil for the tribute which he refused to pay me."

Although in many respects the Assyrian and Egyptian harness and trappings resemble each other, still in some points they differ. Pendant at the sides of the horses, we find a circular ornament terminating in tassels analogous to that divided into thongs in the Egyptian, which some have supposed were intended to accelerate the pace of the animal as in the case of the spiked balls fastened to the trappings of the race horses on the Corso, in modern Rome. In both examples, several bands pass over the chest, and, lapping over the shoulders of the horse, join the ligaments attached to the yoke, or pole. A remarkable band or thong, through the upper end of which passes a single rein, is the same in both. The tails of the Assyrian horses, on the bas-reliefs from Nimroud and Khorsabad, are fancifully compressed in the centre, while the Egyptian have a band round the upper part or root of the tail. Around the necks of the Assyrian horses, as in the last example, is a string of alternately large and small beads, which appear to have cuneiform characters cut upon them—possibly a series of amulets, according to the custom of many Oriental nations of the present day. The head-dress of the horses differs from the Egyptian, and is the mutation of some fifteen hundred years. There are two horses to this chariot, which contrary to Assyrian art generally, are improperly shown in the drawing. Some have surmised that the walls of Nimroud furnish us with examples of the Trojan chariot, the intermediate stage between those portrayed at Khorsabad and Kouyunjik and those introduced by Cyrus. It is evident from the testimony of ancient writers that Troy was in close alliance with the Assyrians at one period in her history. Plato says that "when Teutamus reigned in Asia—who was the twentieth from Ninus, the son of Semiramis, it is said the Grecians under their general Agamemnon made war upon the Trojans, at which time the Assyrians had been lords of Asia above a thousand years. For Priam the king of Troy (being a prince under the Assyrian empire when war was made upon him) sent ambassadors to crave aid of Teutamus, who sent him ten thousand Ethiopians, and as many out of the province of Susiana, with two hundred chariots under the conduct of Memnon, the son of Tithon." *

We have now given the principal features of Assyrian chariots as shown on the bas-reliefs, and may with Rawlinson in his "Ancient Monarchies," inquire "Was the art of the Assyrians of home growth, or imported

* Plato, *De Legibus*, lib. iii. Who further says, that this Tithon was governor of Persia, and a favorite with the king of Assyria, and that he showed great valor before Troy, slaying many Grecians, previous to falling into an ambush of Thessalians, who slew him. Troy was taken A. M. 2820, B. C. 1134 years, and the Assyrian monarchy, according to Berosus, A. M. 2317. This account may be strictly correct, although unsupported by other writers.

from the Egyptians, either directly or by way of Phenicia? The latter view has been sometimes taken; but the most cursory study of the Assyrian remains, in chronological order, is sufficient to disprove the theory, since it will show that the earliest specimens of Assyrian art are the most un-Egyptian in character. No doubt there are certain analogies even here, as the preference for the profile (although as we have seen this is no longer given in outline merely) the stiffness and formality, the ignorance and disregard of perspective, and the like; but the analogies are such as would be tolerably sure to occur in the early efforts of any two races not very dissimilar to one another, while the little resemblances, which alone prove connection, are entirely wanting. These do not appear till we come to monuments which belong to the time of Sargon, when direct connection between Egypt and Assyria seems to have begun, and Egyptian captives are known to have been transported into Mesopotamia in large numbers."

RUSSIAN, SWEDISH, AND FINNISH CARRIAGES.

Mr. R. K. Porter, who traveled in Russia and Sweden in 1805–8, has left on record facts which will serve to give us some insight into the state of carriage-making in those countries sixty years ago. The traveler informs us that carriages in Russia were driven at a furious rate, threatening the life and limbs of the pedestrians, and adds: "In every respect they differ widely from ours (the English). In the first place, their cleanliness is not of the first water, and a drop of oil, or any other liquid, never by any lucky chance falls upon the leathern departments of the carriage or harness to soften their rigidity. The duty of the coachman seems merely to drive; and as men of rank and fortune are entitled to be drawn by four horses, a postilion is also necessary; but, strange to tell, this equestrian youth rides the off horse—a contrary custom to that practised in every country I have seen. Whenever the machine is in a state of rapidity, it is the office of this boy to be on the continual bawl of the Russian word of *take care! take care!*—a precaution, you will understand, from what I have before said, to be indispensable. The rate at which these fellows drive is seldom less than a gallop, and as this is the fashionable pace for carriages of all sorts, you can easily judge how safe it must be for passengers moving in an humbler sphere.

"The decorations of the horses driven by the nobility are very striking. The harness is leather (most profusely spread, almost into network, over the creature), studded and embossed with brass, and various other knobs, buckles, crescents and tassels, with great taste and elegance. This caparison is quite eastern, and has a superb effect. The horses are in harmony with their ornaments, as their manes and tails are allowed to grow to an immense length; they are plaited and tied up very gracefully. The figure of the animal is fine, and partakes of the Persian in shape and air; his motions are loose and rapid, and apparently so wild, that the spectator must suppose that nature has been his only master.

"Hackney coaches (in our form) are not known, but as the extent of the city is very great, conveniences of that kind being absolutely necessary, a sort of hireable machine is to be had, which pretty well supplies the deficiency. It is denominated a Drojeka, and carries an appearance at first sight uncommonly odd and ridiculous. I know not how to describe the visible effect it had upon my mind. It bears not the least affinity to any of the wheeled tribe on our side of the water, but looks like a gigantic insect of the grasshopper genus, pursuing and clinging to the heels of an affrighted horse. As this strange conveyance is totally unknown in England, I shall bring you closer to it, and point out, as correctly as I can, its peculiar shape and modes. This effort of northern ingenuity runs on four low wheels, being a sort of parallelogram, with four leathern wings projecting at no great distance from its body, and which, making an unexpected curve, ingeniously pass in a semicircular line towards the ground, being intended as a resting-place for the feet, and a defence for the traveler against liquid dirt. The part on which you sit is covered with a cushion; and in order to render the motion more easy, it hangs on springs. The occupier of the carriage seats himself as on a saddle, and for his better security, if inexperienced in this mode of journeying, adheres to the driver (who sits in front), by holding by his sash. Believe me it requires no small degree of education, in the art of keeping a seat, to adhere with any decency, much less ease and grace, to the saddle of one of these extraordinary vehicles. And yet, while an Englishman would be bouncing off and on with the clumsiness of a clown in a pantomime, you may see the Russians so perfected by practice, as to sit on their wooden horse with all the elegance of the most managed equestrian. The lightness and velocity with which they pass from one part of the town to another, is incredible; and the expense is by no means considerable, as the equivalent for carrying you three miles is not more than an English shilling (twenty-two cents). From this circumstance, most of the lower orders can at times command this accommodation; and, indeed, the public ones are principally supported by the Russ merchants, and other opulent citizens, as the higher ranks all keep carriages of their own. Its many inconveniences, arising to the occupier, from the dust and sun in summer, and the rain and mud in spring and autumn, render it a vehicle totally incompatible with any ideas of personal neatness or comfort. On the back of the Isvotchic (or driver), a plate is fastened, on which is deciphered the number of the carriage, and the quarter to which it belongs, in order that, should he be insolent, or over-charge his employer, redress may be obtained. There not being any absolutely prescribed fare for given distances, strangers are frequently imposed on by these men, who, like the hackney-coachmen in London, are ever ready to overreach the unwary.

"One hundred and twenty pounds sterling, annually, will produce a good carriage, two horses, a coachman, and every requisite for both it and a sledge.

"The sledge is precisely a pair of colossal skates joined together. On these (according to the tastes of the owner) is erected the most agreeable and convenient carriage which either his purse may afford or his situation claim. The sledges of the humbler order are solely formed of logs of wood, bound together with ropes, into the before-mentioned shape; on this is an even surface of plank or matting, for the accommodation of themselves or loads. * * The sledges which exceed the *drojeka* (the St. Petersburgh hackney-coach) are generally very neat, being decorated with red, green, gold and silver, with strange carved work and uncouth whirligigs of iron.

Their interior is well bespread with *damp* hay, for the benefit of the hirer, in order to keep his feet warm.

"The sledge carriage of a prince, or a nobleman, is uncommonly handsome. All its appointments are magnificent, and never out of harmony. [See Porter's Travels in Russia, vol. 1, first plate, at p. 108.] In it we behold the genuine, uncontaminated taste of the country; no bad imitations of the German or English coachwork are here attempted; all is characteristic, and a picturesque effect, peculiarly its own, is produced by the vehicle itself, its furs, its horses, their trappings, and the streaming beards of the charioteers. The nobleman's sledge is built exactly on the same principle with those of inferior people, only differing in the width of the body, which is made to hold two persons. It is mainly lined with rich furs; and to prevent the lower extremities of the occupier from being cold, has an apron (like those of our curricles) formed of green or crimson velvet, bordered with gold lace. On a step behind stand the servants with appropriate holders. This place is often filled by gentlemen when accompanying ladies on a sleighing party.

"The horses attached to this conveyance are the pride of the opulent. Their beauty and value are more considered than the sledge itself. The excess of vanity among the young officers and nobility here, consists in driving about two animals, whose exquisite elegance of form, and playfulness of action, attract the attention of every passenger. The form of these horses is slight and Arabic, possessing the grace of an Italian greyhound, with a peculiar heightness and lightness of pace. One is placed in the shafts which never alters in pace from a rapid trot; the other is widely traced by its side, and is taught to pace, curvet, and prance, in the most perfect taste of a finished menège. Their tails and manes are always of an enormous length, a beauty so admired by the Russians that twenty horses out of thirty have false ones. Indeed, this custom is so prevalent, that frequently the most rascally Rosinante and pigmy Fin-galloway have long artificial appendages, richly clothed with knots of dirt, hanging as low as the ground.

"But to return to the sledge horses. The harness of these creatures is curiously picturesque, being studded with polished brass or silver, hundreds of tassels, intermixed with embossed leather and scarlet cloth. These strange ornaments give the trappings an air of eastern *barbaric* splendor, perfectly consonant with the animal's shape. However, as every carriage is Russian (even should it be built in the excess of the British mode) is drawn by horses thus romantically caparisoned, the union is sometimes monstrous; and I have often felt the contradiction so forcibly as to remind me of an absurd sight I once saw at home. It was an Indian chief in a London assembly. He was decorated with chains, shells, and tiger's teeth, while all the spruce, powdered *beaux* around him were in the extreme of European costume."

Our author goes on to describe his mode of winter travelling. "The vehicle we purchased for ourselves was a *Kabitka;* a well-contrived and snug machine, not dear, costing only thirty-five rubles, that is, five guineas, British. Its form is simple, being nothing more than a large wooden cradle, fixed on a double keel or skate of the same material, strongly shod with iron. Our trunks were placed at the head and foot; and filling the intermediate space at the bottom with hay, mattrasses, pillows, and other soft accompaniments, we wrapped our persons in pelisses, furred boots, caps, &c., and laying ourselves prostrate, side by side, in the bed we had made, were ready to sally forth in as regular a northern way as any veteran of a Russian winter. Our domestics followed in a barouche, deprived of its wheels, the better to facilitate its union with the sledge; but like many other ill-suited matches, the connection became so uneasy to both parties that a separation was constantly threatened; and a most troublesome companion we found these *two made one* in our journey."

"The mode of attaching the horses to this vehicle is different from that used on similar occasions in any other country that I have ever seen, they being harnessed (generally six in number) abreast, like the *chariots of old.* The traces are of ropes, and the driver sits on a box in front of the "kabitka." The *steed,* which thus imitate the fashion of the heroic ages, unfortunately in appearance are in every thing else that is wretched and mean; they are diminutive, with matted coats, and clotted tails and manes; indeed, their aspect is so pitiable to an English eye, that you expect to see them stretched on the snow, never to rise again, long before they had measured a dozen wersts."

At Moscow the traveller visited the Promenade where he saw "all the carriages in the city, perhaps to the number of seven thousand, trailing after each other in regal procession, through fixed parts of the town and its environs. The insides of these vehicles are filled with all the splendor and beauty of Moscow; and in my life I never beheld so many lovely women at one time.

Travel did not fall off in Swedish Finland. The horses were smaller than those on the Russian side, but their motion in descending hills was so swift, as to be 'really terrific.' The winter vehicles were materially different from those of Russia, being extremely light, narrow and long, seldom shorter than ten feet. The person or persons sit in the centre, and he who drives stands behind; a seat is sometimes affixed, whereon the whip [driver] may sit if he pleases.

At Stockholm we are informed: "With respect to the private carriages (and that they have every claim to respect which mere age demands is very evident), I cannot praise their beauty, most of them having numbered fifty years; some passed their grand climacteric; and a few, so paralyzed by time as to threaten dissolution at every step. The liveries of the servants are in the same hoary condition, and from many a gaping mouth remind you

> 'How the canker-worm knaweth the chariots of the great,
> And the moth fretteth the garments of the mighty!'

"So saith one of their own sages, and so it is exemplified now; indeed, I never saw such *memento mori* in my life. How they will look on wheels, I will not presume to guess, but at present they are affixed to skates (here called *patterns*), with a variety of encumbering appendages, besides two heavy footmen behind, in large hats and high feathers."

We would ask any workman with a logical mind whether the fact that former wages have enabled him to lay up enough to live in idleness during a long strike for higher wages, is not a rather strong presumptive proof that the former wages were high enough?—*Free Trade League.*

Pen Illustrations of the Drafts.

COUPÉ ROCKAWAY.

Illustrated on Plate XVII.

This design is a contribution from Messrs. Brewster & Co., of Broome Street and Fifth Avenue, New York city. The combination of the Coupé with the Rockaway is a novelty peculiarly American, and it unquestionably makes one of the prettiest vehicles for family use we have among the entire nomenclature, diversified as it is. For summer exercise it is much preferable to the coach, being less costly, more airy, and not as heavy and cumbersome. It first originated in 1864, and has since undergone some improvements, as will be seen by comparing the present drawing with those figured in Volume V. of this Magazine.

In trimming carriages of this kind we prefer dark colored linings—say blue—as such are not as likely to fade under the sun's rays to which they are exposed, or to be soiled by the rains, as drabs and other fancy colors, which, however much they may facilitate the sale thereof, never in the end give equal satisfaction to customers.

DOG-CART.

Illustrated on Plate XVIII.

An ingenious correspondent of this Magazine favors us with this original design for a dog-cart. As will be observed by the practical mechanic, this dog-cart is more especially intended for the sportsman, but may be useful in the more peaceful occupation of riding in the Central Park, where such often figure, in a pleasant afternoon, sometimes driven tandem—that is, with two horses, one before the other—by "city sports" of the fast persuasion. The body is hung-off so as to slide and balance. The iron-work for this arrangement will be found among the "Sparks from the Anvil," on this page. The hook at the end of the shaft shows the arrangement for hitching on the second horse, when driving tandem.

BASKET PHAETON.

Illustrated on Plate XIX.

For this beautiful design we are indebted to Messrs. Wood Brothers of Broadway, New York city. This basket phaeton is emphatically the ladies' favorite, both here and in Europe, where they originally were invented. The construction is very simple, and yet it seems to give our country friends some trouble to "get up," judging from the letters of inquiry we are in constant receipt of. The body-maker has only to prepare a frame of the model he wishes, and then send it to the basket-maker to be finished with willows (osiers), as shown in the engraving. Such may be found capable of performing the work, in nearly all cities, with a few instructions from the carriage-maker.

EXCELSIOR BUGGY.

Illustrated on Plate XX.

Our own artist supplies us with the design we this month give of a buggy. We think it hard to beat, if we may indulge in the privilege of saying so. The mouldings in this example are real, of a triangular form, so that when glued on they show an outward sharp edge. These should be painted of a different shade from the panel, where the panel is black—say Quaker green, for instance. It will be observed, in this case, that the top back panel is somewhat rounding. This feature presents a pleasing effect in contrast with a rounding back corner, not obtained by a flat one. The wheels, 3 feet 11 inches and 4 feet 2 inches, should have a hub $3\frac{3}{4}$ by $6\frac{1}{2}$ inches, spokes $\frac{7}{8}$ inch, rims 1 inch, and tires $\frac{1}{8}$ by $\frac{3}{4}$ steel.

Sparks from the Anvil.

SLIDING GEAR FOR A DOG-CART.

The illustrations accompanying this article are intended to assist the workman in hanging up—so as to slide—

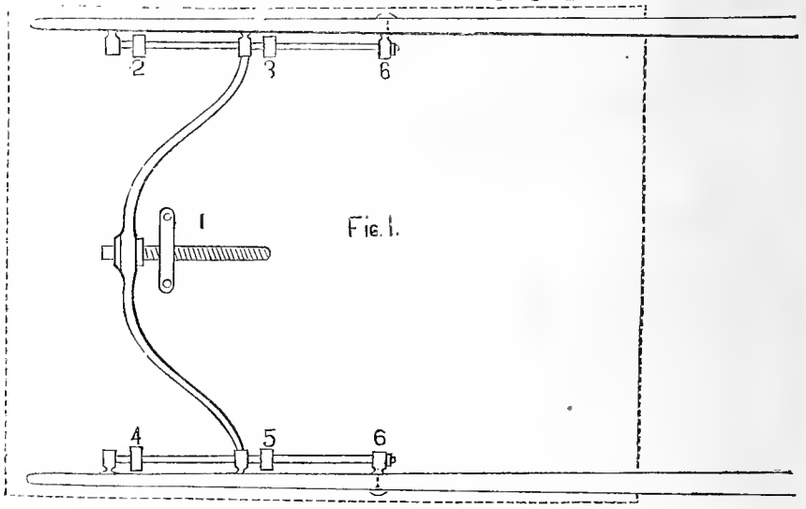


Fig. 1.

the body of the two-wheeled dog-cart given on Plate xviii, of this volume. At 1, (in Fig. 1,) is shown a plate to be attached to the body with screws with projections for a screw to operate. At 2 3 4 and 5 are likewise projections for slide-bolts to pass through as the screw is turned with either a handle or wrench, so as to drag the body forward or back as may be required in balancing the weight upon the horse's back. At 6 there is a knuckle-joint in the shaft, intended to counteract the motion of the horse in travelling. At 7 (Fig. 2) is a shaft case, with rollers, made of rubber for the purpose of letting the body vibrate up or down; and also slide when forced by the turning of the screw in balancing. Every portion of the

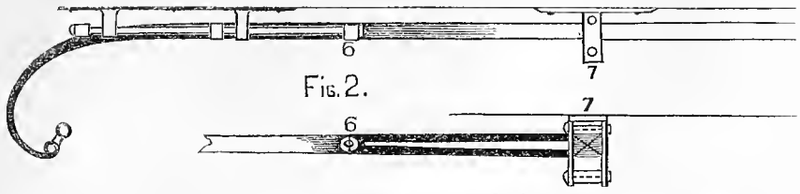


Fig. 2.

shafts, at the hind end, from the knuckle-joints 6, 6, is iron, the projections for the slide-bolts being welded on solid.

SWEDISH BESSEMER STEEL.

The high quality of Swedish charcoal-iron gives it an especial value for conversion, by the Bessemer process, into steel. In respect of the two most mischievous impurities which render ordinary irons wholly unfit for conversion, viz., sulphur and phosphorus, Swedish irons possess, in most cases, but a trace of each. The natural advantages of Sweden for the production of iron at a comparatively cheap rate are also greater than is generally supposed. The ore, yielding an average of 50 per cent. of iron, is practically inexhaustible, and is cheaply raised, the cost of getting, at the Hammarbacken Works, in Central Sweden, near Lindesburg, having averaged, according to the report of the manager of the works, Mr. Edlund, 4s. per tun of ore, equal to 8s. per tun of iron. Charcoal can be made in practically unlimited quantities, the quantity requisite for making one tun of pigs being about 225 cubic feet, costing, at the same works, about 29s. 6d., a high charge, no doubt, yet still permitting the production of the very best iron at about £2 13s. 4d. per tun, which it is stated was the actual cost price at the works in question for a period of ten years ending in December, 1866. This cost, it is estimated, would permit of the production of Bessemer ingots selling in Hull for £7 per tun.

Mr. A. A. Skröder, a Swedish engineer now in London, has brought the capabilities of the district in question before several English capitalists, with a view to their acquiring a large mineral and forest property, the latter upwards of 20,000 acres in extent, and upon which there is a blast-furnace making about 50 tuns of iron a week, besides forges, flour and saw-mills, etc.—*Engineering.*

Paint Room.

FINISHING COAT OF ENGLISH VARNISH.

For our present purpose we shall suppose that the body with which we have to do in this instance has had the requisite number of coats of American varnish, for a foundation—say three coats in all, one mixed with color—and that the job has gone through the trimmer's shop, and is now ready to receive a finishing coat of English varnish which is invariably given to all good work in this country. The rubbing down of the last coat should have been done before it left the "Paint Room," as to do it after the linings are in, subjects it to injury, sometimes to a serious one. But never mind, since the neglect in this instance will afford us an opportunity to show the rubbing operation in detail, without going back.

The first process then is to rub down the body. For this purpose take a piece of cork wood about three inches square and two thick, made a little rounding at the front end on the bottom, for obvious reasons. Cover this cork with two thicknesses of woollen cloth,—the finer fabric the better,—and you will have a nice rubber, with sufficient spring in it (supplied by the cork) for all practical purposes in obtaining a good even surface, providing the previous labor has been properly done. After the body is rubbed down, and the pumice all removed, it must stand one day at least before the varnish is applied, to dry. Our readers who have studied the several articles published "On the Pitting of Varnish" in volume ii, and "Gossip for the Paint Shop," in volume iii, will understand the necessity of having a dry surface if they would avoid expense and trouble afterwards, particularly when applying English varnish.

To secure a good job, several little matters must be attended to, such as a clear, dry atmosphere, clean brushes and a close room free from dust. These are all imperatively necessary in spreading a "flowing coat" of varnish in these days when polishing is, as a general rule, out of fashion. To varnish a coach body will require at least five hours time, by the most expert, since the varnish requires constant watching to correct runs, until it fairly "sets." The usual mode of varnishing is to begin at the top and work down. Some recommend that this begin at the top of the back panel, then varnish the front, afterwards finishing the sides. It is a good plan to have two cups at hand in putting on this last coat, one for the varnish to be applied, the other to press the dirty varnish from the brush into, when necessary.

There is some difference in the opinions of men as to which makes the best brushes, badger or fitch hair. Most painters have come to prefer the latter in laying on the varnish. Some recommend that these when not in use be kept suspended from a wire, by means of a hole in the handle, in a vessel filled with raw oil, or varnish. Raw oil is probably the best in shops where brushes are only occasionally used, but where these are in constant use varnish is decidedly preferable, since it saves time in cleaning, and can be brought into immediate use without damage to the varnish from the oil secreted therein. In these remarks we have studied brevity, believing that the intelligence and practical knowledge of our readers, would supply the rest.

TYRIAN PURPLE.

The estimation in which the purple dye of Tyre was held in ancient times is shown by the manner in which it is referred to by all classic writers. So highly prized was it, and so expensive, that it became the symbol of royalty; and to be "born in the purple" was expressive of imperial or patrician descent. The method of obtaining this shade of purple has been lost, with many other mechanic arts, but Professor Dussance gives the following interesting though somewhat conjectural sketch of its source and the manner of its production:

"The Tyrians were probably the only people of antiquity who made dyeing their chief occupation and the staple of their commerce. The opulence of Tyre seems to have proceeded in a great measure from the sale of its rich and durable purple. It is unanimously asserted by all writers that a Tyrian was the inventor of the purple dye about 1500 years B. C., and that the King of Phœnicia was so captivated with the color that he made

purple one of its principal ornaments, and that, for many centuries after, Tyrian purple became a badge of royalty. So highly prized was this color, that in the time of Augustus a pound of wool dyed with it cost at Rome a sum nearly equal to thirty pounds sterling. The Tyrian purple is now generally believed to have been derived from two different kinds of shell-fish described by Pliny under the names *purpura* and *buccinum*, and was extracted from a small vessel or sac in their throats to the amount of one drop from each animal; but an inferior substance was obtained by crushing the whole substance of the *buccinum*. At first it is a colorless liquid, but by exposure to air and light it assumes successively a citron yellow, green, azure, red, and, in the course of forty-eight hours, a brilliant purple hue. If the liquid be evaporated to dryness soon after being collected, the residue does not become tinged in this manner.

These circumstances correspond with the minute description of the manner of catching the purple dye-fish, given in the work of an eye-witness, Eudocia Macrembolitissa, daughter of the Emperor Constantine the Eighth, who lived in the eleventh century. The color is remarkable for its durability. Plutarch observes, in his life of Alexander, that, at the taking of Susa, the Greeks found, in the royal treasury of Darius, a quantity of purple cloth, of the value of five thousand talents, which still retained its beauty, though it had lain there one hundred and ninety years. This color resists the action even of alkalies, and most acids. Pliny states that the Tyrians gave the first ground of their purple dye by the unprepared liquor of the *purpura*, and then improved or heightened it by the liquor of the *buccinum*. In this manner they prepared their double-dyed purple—*purpura dibapha*—which was so called either because it was immersed in two different liquors, or because it was first dyed in the wool and then in the yarn."

ORIGINAL MONOGRAM.

Illustrated on Plate XX.

The faculty of combining letters so as to form a pleasing monogram is confined to a very few individuals. Among the most ingenious is our friend, Mr. J. S. Legget, of Amenia, who contributes the beautiful design we now have the pleasure of introducing to our readers. As stated last month, we intend to give our patrons at least one original monogram each month. We would also state, in this connection, that we have made arrangements to prepare monograms for the trade from such letters of the alphabet as our friends may send us, in pencil, so that a common painter may put them on. The charge will be at the rate of $1 for each letter combined.

Trimming Room.

STUFFING CUSHIONS WITH SPONGE.

In former times, before curled hair was thought of, salt hay, tow, or even carpenters' shavings served—it was conceded—a very good purpose as stuffing for cushions. Now, even curled hair has been pronounced faulty, for in constant use it is found to flatten down and become hard, requiring to be re-shook and made up anew every year or two.

Experiment has lately been made with the common sponge, with good success. The greatest difficulty in the way of its coming into use is the expense. This, however, is not so serious a matter as first impression might indicate, since the coarser and cheaper kinds will answer every purpose. We have lately been shown a cushion of two years' wear, stuffed with the article, which still retained the original fulness and shape.

In making up a cushion, it is best to enclose the sponge in a case of hair-cloth, as a sort of protection, afterwards covering the whole with cloth or other outside finishings, as fancy or circumstance demands.

MACHINE FOR SHAPING LEATHER LACE.

When in Stamford a few days since, we were shown a machine—which has been patented by the inventor—that strikes us as being a capital thing for doing the work assigned it—that is, the shaping of the leather used in binding the edges, and otherwise ornamenting the falls and cushions of cloth in trimming carriages. The instrument has something of the form of the Patent Clothes Wringer, with the rollers on which is made, in a lathe, several indentations, so as to either raise or depress the strip of dampened leather, passed through it, to a certain shape at will. By this instrument the appearance of the finished job is greatly improved, and much time and labor economized. It has not yet been offered to the pub ic, and only used by the inventor, who is himself a trimmer.

Editor's Work-bench.

OUR OFFICE IN A NEW LOCATION.

We have long felt the inconvenience of crowded quarters, but have now removed to a location where we hope to have "ample room and verge enough" to do the business, which has so increased on our hands as to require it. We are now a little higher up-town than we have ever been situated since we started the Magazine, but in a delightful office up among the "big-bugs" of Murray's Hill. Our friends who come into the city at the lower end have only to inquire for the Astor House, jump into a Fourth Avenue horse-car, and ask the driver to set them down at our door, to find us easily. Those who come from the North and East by rail will inquire for the corner of Thirty-third Street and Lexington Avenue, which is within a few rods of the Harlem and New Haven Railroad stations, on the Fourth Avenue. The numbers of the street are 204, 206 and 208. Our friends will hereafter be careful to direct all their letters &c. to 204 Lexington Avenue, where, should they visit the city, we shall endeavor to give them a cordial welcome.

UNIONISM UNDER PUNISHMENT.

We stated sometime ago that a civil prosecution had been instituted against several members of the Bricklayers' Union located in Morrisania, N. Y., by Henry B. Dawson, the historian, because they had, contrary to law, combined to prevent his son from learning that trade. Mr. Dawson having obtained a verdict in the civil court against the parties, still further prosecuted the offenders in the court of Oyer and Terminer, in Westchester County, the parties, Jacob Van Nostrand, John J. Clark, Alexander Campbell, Robert Savan, Benjamin Westerfield, Jr., James Moore, Michael Duran and Michael Kirby, journeymen bricklayers and plasterers were convicted of having entered into a combination of "two or more" against the rights of others, which course, in the State of New York, is made by a special law, a high crime and misdemeanor. This prosecution was instituted as a test suit to settle the question of right in others to prevent individuals, not members of the Union, from learning a trade, according to their by-laws. As such it created much interest, and the decision of the court, we trust, will open the eyes of these disorganists to the fact that the public has rights which they must respect, or else suffer the consequences.

The indictment against the above named individuals, among other things, charged, that by the rules and regulations of the club the members were not allowed to work with any man who was not a member, under a penalty of $15 for the first; $25 for the second, and expulsion for the third offence. The indictment further stated that the members of the Union were prohibited from working for any master-mason who employed any person not a member, and in consequence Wm. M. Dawson who was desirous of learning the bricklayer's trade was prevented, Mr. Dunham, the boss, being compelled to dismiss said Dawson, "to his prejudice and loss, and the obstruction of trade and voluntary labor." In this case W. B. Angell and L. F. Chatfield acted as counsel for the prosecutor and Dyckman & Herring for the defendants. Mr. Angell, in stating the case, said he was glad to remark that it was seldom it was found necessary to bring such causes before a jury. The defendants were indicted under the statute common law, which provided: "If two or more persons shall conspire either to commit any offence or to commit any act injurious to the public health, to public morals, or to trade or commerce, or for the perversion or obstruction of justice, or the due administration of the laws, they shall be deemed guilty of a misdemeanor." The defendants belonged to an association that had been formed in the town of Morrisania, called "The Bricklayers' Benevolent and Protective Union." It was a branch of the national organization, subject to its authority, though having a local constitution of its own. Counsel read section two of the constitution, which set forth the chief objects of the Union, showing that its aim was directed to obtaining by legal means, a fair remuneration for their labor, and to assist each other in burying all brother members. So far as these objects were concerned there could be no possible objection to the organization; but when they attempted to interfere with the general business of the community it was time for the law to see to it. The rules and regulations of the Union forbade any employer from engaging any men except those belonging to a certain class. For instance, article eight set forth that no member of the Union should work with a non-member, and the number of apprentices allowed to an employer should be two. Having dilated upon what he contended were the evil results of such organizations, counsel proceeded to narrate the facts, as follows:—The complainant lived in Morrisania, and was the son of Mr. H. B. Dawson. Anxious to have him taught some honorable employment, he went to work as a bricklayer with Mr. Dunham, builder, with whom he was to remain and learn his trade. But the other workmen, some time after his engagement, threw down their tools and left. In order to procure hands Mr. Dunham was obliged to discharge this boy from his employment.

Mr. Dawson testified, that his agreement on placing his son with Mr. Dunham was merely a verbal one, in which he agreed to give him one dollar a day and afterwards increase his wages as he progressed in the business; that he staid only about three months, ending in December last; that he called upon the President of the Bricklayer's Union, and afterwards received a letter from the Union, the substance of which was, that his son could not be permitted to learn the trade unless he was regularly indentured to serve until he was twenty-one years of age, and gave him one week to do it in, at the end of which, if not done, then no member would be allowed to work with him. The same letter added, there was another rule of the Union which required that when the indentures are made out they would have to be submitted to the Union for approval and recorded on its books. On the cross-examination by Mr. Herring, the witness stated that in his interview with the President he requested him to use his influence in having all disabilities removed, which he promised to do. After the civil suit the boy was sent back to Mr. Dunham, but his services were refused.

Counsel then proceeded to read a letter which the witness wrote to Mr. Frank P. Garvin, President of the Association, after his son had left the employment of Mr. Dunham, and to which communication the letter already mentioned was the reply. Mr. Dawson, referring to his son wrote, that after he had entered the employment of Mr. Dunham he entered into an agreement which was perfectly satisfactory to both. By that agreement his son

was to remain with Mr. Dunham until he was twenty-one, and perform all the duties of a good apprentice. Mr. Dunham was to cause him to be thoroughly instructed in his trade as a mason in all its branches, and to fit him to discharge his duties as a first class mechanic. It had been brought to his knowledge very recently that the society had adopted certain rules, which, if insisted upon, would prevent the proper fulfillment of the agreement on either side, while they would also prevent his son from receiving that instruction during his apprenticeship which was necessary to make him a finished workman. Thus he (Mr. Dawson) was told that unless his son was obliged to serve four years he would not be allowed to work except with "scabs;" yet he was taken by Messrs. Campbell & Westervelt as an apprentice when that was impossible without objection. It was only after eight months' service at the trade that that point had been raised. Within less than three years and a half from the day he went to work with the members of the Union he would, if alive, be twenty-one. How then, could he serve four years' apprenticeship. There was no written agreement between Mr. Dunham and himself, nor did they desire any; while the parties to that agreement shall live it would be honored, and a violated agreement, even if written, amounted to very little. He was told he must make a new agreement contrary to both the wishes of the writer and those of Mr. Dunham, else his son must not learn his trade, even if his age permitted. After expressing doubt that the association would wittingly prevent a young man from learning his trade, and believing it impossible that the society could have undertaken to do what the Legislature of the State could not do, this letter concludes with a request that the society would remove the obstacles which it seemed to have placed in the way of the writer's son acquiring his trade agreeably to his contract.

To this letter the Secretary of the Union sent the reply which is given above, the substance of it being, that the Union had resolved that their men should not work with Mr. Dawson's son unless he was regularly apprenticed until he was of age. It then appears that subsequent to this, Mr. Dawson brought a civil action against the members of the Morrisania Bricklayer's Union, consisting of Messrs. Gavan, Nostrand and Campbell, for damages for the loss sustained by his son. The jury rendered a verdict in favor of the plaintiff. Mr. Dawson afterwards sent his son to Mr. Dunham for the purpose of obtaining a re-engagement. Finding, however, that the bricklayers were strongly opposed to it, that gentleman declined to employ him. Subsequently Mr. Dawson sent his son to Mr. John T. Conover, of this city, with whom he has since remained. The present suit was therefore brought to test the law with regard to the movement.

Mr. Dawson, the father of the boy, in reply to his counsel testified that his son was nineteen years old, that his agreement with Mr. Dunham was that he should stay and learn the bricklayers trade until he was twenty-one, and that he was to have one dollar a day, and as he progressed, his wages was to be increased; that he staid only three months, when he was sent home in consequence of the action of the defendants, who by order of the Union refused to work with him unless he was regularly indentured, the fine for continuing work to members in such cases being $5 for the first offence, &c., as before stated.

The testimony of Wm. M. Dawson, the apprentice, corroborated in general terms the statements already made, and in addition said—that Van Nostrand told him that one of them must leave unless he was bound, and that he received his instructions direct from Van Nostrand, and testified that he was anxious to be bound, himself.

Mr. Garvin, President of the Union, testified that the bricklayers struck because the young man was not indentured, not because he was a non-member of the club, which was about all the defence had to offer.

Mr. Dyckman for the defendants said to the jury that there had been no conspiracy under the statute—none against trade and commerce, attributing the whole proceedings to the master-masons of New York city, who wanted apprentices for whose labor they could profitably charge full wages, and concluded by urging the jury to acquit the prisoners, as no overt act had been proved against them.

Mr. Chatfield for the prosecution, dilated some length on strikes, commenting severely on the present labor movements, contending that voluntary labor was curbed by such proceedings.

The Court in charging the jury dwelt at length upon the law bearing on the several more important features of the prosecution. The question naturally arose, what right had the Union to compel Mr. Dawson to article his son or to interfere, and had Mr. Dawson a right to make his own contract? But to support the prosecution three propositions must be established. That the jury may be satisfied it was first necessary to establish a combination of two or more, and in the present case a combination of the defendants. Secondly, they must establish that that combination was made for the accomplishment of unlawful purposes, and in this case for the purpose of injuring the public trade. Having established the combination and that that combination was for the perpetration of unlawful things, some overt act must be established. Unquestionably the confederacy was admitted, and having dilated upon the law of conspiracy, the Court went on to state that the Union had no right to make any regulation or bind together for any purpose resulting in the public resources being impeded. Having reviewed the facts of the case, citing throughout many cases bearing upon the

present question, Judge Cochrane concluded shortly before five o'clock.

The jury having retired, after some time in consultation brought in a verdict of guilty, and remanded the offenders for sentence. At a subsequent day sentence was given that the offenders pay a fine of Fifty dollars each, and stand committed until paid. We understand that the Union intends to appeal to the Supreme Court for a reversal of the sentence if possible.

CO-OPERATION ON TRIAL.

More than once in these pages we have noticed the failures of all attempts made by coach-makers to secure better results for their industry by joint stock associations, than they could otherwise obtain by daily wages. The result has been futile, as we have shown, from the very nature of the business, but we did suppose that in certain cases—such as setting-up a store for instance—better success would attend co-operation. But alas! the prospects in that direction for getting rich are also likely to prove a total failure, as the following relation will show.

Some time ago, the "First Manhattan Co-operative Grocery and Provision Association" went into business in this city, which fact was made an occasion of much rejoicing by every Agrarian Editor in the land. But time has shown that even these Associations fail in their promised rewards. On the 26th of August, a special meeting was held to consider whether the Association's co-operative store should continue its operations or wind up its affairs, the President, E. B. Barnum, stating at the time that they were losing money and had been for some time previous. He accounted for this because many of the members who ought to give the store their patronage had failed to do so. Another thing was the insufficiency of stock, and besides the dullness of trade during the summer months. He said he believed the project could be made to pay, and as this was the pioneer store of the kind in New York City he should exceedingly regret the failure of the experiment. That the store might go on, he called for an additional subscription to the stock of $1,000 to enable the directors to do so. The question before the meeting was to "talk more money or else close the business."

The "talk" a member of the association gave to the question was that he had not patronized the grocery for the simple reason that he could buy his goods a great deal cheaper at any other store. This the President said he did not understand as they had aimed to sell as low, at least, as anybody else. [We had supposed that the object of co-operation was to give stockholders cheaper groceries, but let that pass.] At this point a motion was made and seconded to close the store and wind-up its business at once. On this motion there was a lengthy discussion. The co-operative principle was descanted upon at a most learned length. It would not do, many argued, to give up this grand (!) principle. It was said the time was near at hand when stores would be kept and buildings put up in every section of the city on this principle. One gentleman insisted that the cause of their embarrasment was bad management, and urged the selection of a new locality at a cheaper rent, and another declared there were too many bosses, and still another that they had failed because they had not advertised in the papers, nor solicited the patronage of laboring men.

Mr. Oliver, the superintendent, said that with a trade of $700 a week he believed the store would pay and urged that with a small trade from each of the three hundred members it would prove self-supporting. Here a substitute to the original motion was offered and acted upon —that the members pay in their unpaid shares forthwith, and let the business go on. This resolution having passed, and a committee been appointed to report affairs at the next meeting, the meeting adjourned.

THE PLAYED-OUT SHAFT FASTENER.

Some men are born to luck, and of this sort hitherto has been Wm. S. Chapman, the *original* inventor of the "Patent Shaft Fastener." Having as we believe made a fortune out of a simple bit of India Rubber, it is very natural to suppose that he would use every effort to still further extend so rich a placer, but in this he has signally failed, as the following letter shows:—

Philadelphia, August 24, 1868.

Mr. E. M. Stratton, *Dear Sir*—We received letters from our attorney at Washington a few days ago, informing us of the success of our efforts to prevent the further extension of W. S. Chapman's patent for rubber blocks for shaft couplings. After a very full and extended argument of the case the Commissioner of Patents has decided adversely to Chapman, and in consequence the use of rubbers to prevent rattling in carriages is now free and open to the trade. Respectfully Yours.

Geo. W. Watson & Co.

THE NEW CHART.

Last month we announced a new chart, which the calls of customers compelled us to get out. This we have called Number Six, and it is decidedly the best thing yet published. This chart represents nine top-buggies, six no-tops, four rockaways, two cabriolets, one phaeton, two physician's phaetons, and one Victoria phaeton,—twenty-five in all, It will be seen that this chart contains designs chiefly for light vehicles, thus fitting it for the offices of a greater portion of the carriage shops throughout our country. This chart is printed to match number 5, issued last year, which is likewise made up of light carriages. The price of either by mail, or otherwise, is $1; for Nos. 5 and 6, sent together, $1.75.

As before stated, numbers 2, 3 and 4 can no longer be supplied, each entire edition being exhausted. Number 1 can still be had, but this is a small affair, and we cannot recommend it. Nos. 5 and 6 are the two finest charts for the coach-makers office, ever published; and when framed to match and hung up, will not only be very useful in obtaining orders, but highly ornamental. We have been favored with many calls for these charts the month past, and would advise those who want them, (and what carriage-maker does not?) to send at once before they are all gone. Observe: our new address is 208 Lexington Avenue, where all letters should be directed.

MISCELLANEOUS NOTES OF THE MONTH PAST.

General Schofield pays the men under him eight hours wages for eight hours work. He, at least, cares but little for the eight-hour law of Congress.....A correspondent of the *Evening Mail* says that Broadway between Irvington and Tarrytown, shows as many handsome "turnouts" as its city cousin.....In Rockford, Ill., among other establishments, they have one for the manufacture of iron, and one each for malleable iron, bolts and files.....The velocipede mania is said to be on the increase in Paris..... The Bricklayer's strike in N. Y. continued nine weeks and then caved. Won't they have a *nice* time of it the coming Winter?....A writer, in mentioning "the Hansom cab" running in New York, tells us the horse is *the handsomest* portion of the turnout. The fellow is evidently not an Englishman.....It is said that one of the wickedest men of New York City now drives a hack in Albion, N. Y.....The President of a street railway in Philadelphia recently suggested to the conductors on the line, that he would enter into a contract with them whereby they should return so much, per car, a day, and they should be privileged to retain all over that amount.....At the United States armory in Springfield, eight hours has for some time constituted a day's work, with old wages; but Col. Benton has informally told the men that he had received instructions from headquarters to cut down their wages proportionally unless they worked ten. In consequence, the men still work only eight hours, running the risk of getting full pay.....They have got a steam plough in California which beats that of the "Pioneer" inventor —"*our* old friend" of Columbus—out of sight. By the way, like his Magazine, we guess *his* invention run into the ground long ago. Alas, poor Yorick!....A wag, in view of the success of the milk trains on the Housatonic and Naugatuck roads, calls them the "milky way." The fellow should be turned out *to grass*.....The carriage manufactory of John Gale, on Lowell street, in Lawrence, Mass. with its contents, was burned on the evening of the 1st of September. Loss about $20,000.....The Democrats in the Legislature of Ohio have planted themselves square against the eight hour system. On a proposition to make eight hours a legal day's work on the public roads, they voted unanimously against it.....That would be considered a very poor clock, which, after running for ten hours, should strike for eight.....Wood Brothers are offering Basket Pony Phaetons for ladies' use, at $175, with other styles of pleasure carriages proportionably cheap.....The prices for no top New York made buggies are $300, $315 and $325; top buggies about $425.....On the 4th of Sept. the Jour. Bricklayers reported 1,238 eight-hour men and 789 ten-hour men as then at work in New York, 203 being idle.

COVERS FOR BINDING THIS MAGAZINE.

We have now a supply of covers for binding The New York Coach-maker's Magazine, which will be sold and mailed, postage paid, at 75 cents each; when delivered at this office, 65 cents. We have also a few volumes (nine) bound, for sale at our advertised rates.

EDITORIAL CHIPS AND SHAVINGS.

Belgian Workingmen's Convention.—Under date of Brussels, September 9th, we have the following telegram: —An International Convention of the Workingmen of Europe has been in session in this city during the present week. The attendance is large, and the proceedings have been harmonious and orderly. The objects of the meeting and the results obtained may be best summed up in the resolutions which were adopted to-day, in substance as follows: It was resolved that, in the opinion of the Convention, workingmen cannot obtain complete emancipation from the oppressions of employers through the means merely of local "strikes;" that all "strikes" should be subject to a code of uniform rules and regulations; that councils of arbitration be formed to settle differences between the employer and the employed; finally, that Trade societies be established in those countries where they do not now exist, and that all such societies be organized so as to be able to act in close connection and concert with one another for the general improvement of the status of the workingmen throughout Europe.

London Cabmen on a Strike.—The cabmen in London have been on a strike for some time, and caused the public much trouble and inconvenience. The press strongly denounce the action of the drivers, whose proceedings, however, have so far been orderly, a fact which distinguishes them from most organizations of the kind.

Mass Meeting of the Albany Trades' Unions.—On September 7th, a mass meeting of the various Trades' Unions of Albany, was held in that city, the purpose being of expressing sympathy with the Bricklayer's strike in New York. Previous to the meeting the Unions paraded the streets with hundreds of torch-lights and transparencies. The procession was over a half-mile long. After arriving at the Capitol, the meeting was addressed by a

delegation from the mechanics of New York, consisting of Messrs. Frederick Hewlett, Alexander Troup, and John W. Browning, and by John McKinney of Albany. The speakers were heartily applauded. The resolutions recognize the struggle of the Bricklayers' Union of New York as a battle fought for the rights of labor on this continent, and pledge the workingmen of Albany to sustain the strikers until they triumph; condemning the arrest and coercion of the bricklayers of Morrisania, and promise, if the law can be construed to make it a crime for workingmen to meet and counsel together, that workingmen will agitate the question until such tyrannical law shall have been swept from the statute-books. They thank Congress and the State Legislatures that have passed the Eight-Hour law, and call upon them to enforce it; denounce General Schofield for reducing the wages of Government employés, and hail with pleasure Attorney-General Evert's opinion that Congress legislated on a reduction of hours of labor and not of wages; recommend the labor organization of the State to hold mass meetings to ratify the platform of the National Labor Union, and elect delegates to the session of that body meeting in New York, Sept. 21; denounce the low wages and long hours for girls and women, and recommend them to learn trades and join the Labor Unions, or to use other honorable means to compel men to render unto every woman according to her works. The multitude separated at a late hour.

Coach-makers' International Union played out.—This once powerful organization (on paper) which was to reform labor and give less work and more pay to the workman is now very sick. The Union has been so poor ever since it met in Geo. Bogen & Son's drinking cellar in Cincinnati, that it has not even had the money to pay for printing its report of proceedings—we had to do it gratis—nor carry out its plans of extension. The president has gone back to painting in Brooklyn, in the capacity of journeyman; and the secretary, not getting the six dollars annually from each member as expected, has "gone back" on the International. Indeed, the International has now no *head* left, *and the tail is nearly gone!* The only remnant left is the "false tale," that the organ is working in the interest of the bosses.

A Fizzle.—The fifth session of the Coach-maker's International Union, was appointed to be held in Troy on the fifth of August, but so far as we can learn, proved a failure, no such meeting being held—at least the papers of that locality are silent, and so is every Union-man we have written to on the subject. This is to be regretted, especially by the George Bogens of that city.

Patent Journal.

AMERICAN INVENTIONS.

June 23. (78,996) Safety-Hook.—L. H. Pfleegor, Milton, Pa.: I claim the combined construction and arrangement of the stock A, hook B, and lock-lever C, substantially as and for the purpose herein specified.

(79,005) Wagon-Bolster.—George Richards, Richland Centre, Wis.: I claim the combination, with the bolster A, of the cap B, spring *d*, and lug C, substantially as and for the purpose described.

(79,088) Thill-Coupling.—James P. Thorp, Southington Conn.: I claim the hook F, applied to the thill-coupling, and passing through a hole in the thill-wire, to operate in the manner substantially as and for the purpose set forth.

(79,089) Tire-Bending Machine.—Robert Tyrrell, Sumner, Ill.: I claim the combination of the rotary disk A, having the two diameters *e f*, and provided with the lever B and clamping, device *g h*, with the horizontally and vertically-adjustable roller C, slotted arm D E, blocks *n o*, headed rod *h*, provided with the nut *j* and gudgeon *k*, all constructed and arranged to operate substantially as herein set forth.

(79,155) Wagon.—G. Carter Stamper, Pella, Iowa.: I claim *First*, The springs B, when attached directly to and arranged to act directly upon the wheels of a wagon or other carriage, substantially as and for the purposes specified and set forth. *Second*, The anti-friction rollers *s s'*, when arranged upon the connecting-rods O O, substantially as and to operate as described. *Third*, The spring-brace *m*, as combined with the rear-axle and the spring-braces *n* and *n'*, for the front, substantially in the manner illustrated, and for the purposes set forth.

(79,165) Axle for Vehicle.—Smith D. Wackman, Auburn, N. Y.: I claim, *First*, A trough-shaped axle for vehicles, substantially as set forth. *Second*, The combination, substantially as set forth, with a trough-shaped axle, of tubular bearings.

(79,168) Shaft-Coupling.—Seth Wheeler, Albany, N. Y.: I claim, *First*, A ball-and-socket, or other analogous closed coupling, having anti-friction pin, stud, or roller applied to it, substantially as and for the purpose described. *Second*, Constructing the socket C with recesses in or through it, adapted for receiving a pin, *a*, which is applied to an enlargement, D, of a spherical or other shape, substantially as described. *Third*, Fitting the driving-pin *a* into a flaring hole, *b*, made through an enlargement, which works in a socket, C, and covered by means of caps *c c*, or their equivalents, substantially as and for the purpose described. *Fourth*, An articulating coupling, with a pin, stud, or roller, which is free to roll on its impinging surfaces, and also to vibrate, substantially as described. *Fifth*, The combination of the flaring or oblong pin-hole or slot in the ball of the coupling with the oblong slots of the socket, substantially as described.

(79,186) Carriage-Brake.—William Ballard, Lapeer, N. Y. I claim, *First*, The bent hound-bolt or crank, as described, and fastened to hounds and tongues by means of iron straps *j j* and *o*, also the said manner of fastening, as herein described, and for the purposes set forth. *Second*, The rod *f*, connected with slides *k k*, (slots or slides,) and with rod *l* and brake *m*, in four parts, *m*, *t*, *p*, and *r*, with slides, slots, and spiral coil springs, in combination with crank-hound bolt *g* and other parts herein mentioned and claimed, substantially in the manner and for the purposes herein described and set forth.

(79,205) Whiffle-Tree Plate.—James B. Clark, Plantsville, Conn.: I claim a whiffle-tree plate, with its shaft B, tenon C, bearings E and F, and third plate G, all constructed and operating substantially as described.

30. (79,311) Wagon-Body.—Matthew M. Carr, Ringwood, Ill., assignor to himself and Thomas S. Carr, same place: I claim the combination of the hinged sections of the bottom C D E, the bars F, pivoted as described at H, the springs J, latches I, levers K, cords or chains G and N, and levers L and M, all arranged and operating in the manner set forth.

30. (79,410) Cars, Wagons, and other Vehicles.—Thomas Stone, Plainfield, Ind., assignor to himself and Virgil H. Lyon, same place.: I claim, *First*, A wagon-box A, having the pivoted leaves *a a a*, &c., in combination with the rods *e e* and rod *b* cleats *p p p*, and lever-devices, for operating the said rods and leaves, all substantially as shown and described, and for the purpose set forth. *Second*, The levers *j c c*, rods *e e*, links *k k*, substantially as shown and described, in combination with the leaves *a a a* and box A, all substantially as and for the purpose shown and described. *Third*, The levers *j j*, in combination

with the rod *b*, leaves *a a a*, and box A, substantially as and for the purpose shown and described.

(79,416) Machine for Rolling Tires.—Thomas Edward Vickers, Sheffield, England.: I claim so arranging a rolling-mill that the parts of the rolls between which the work is performed shall overhang their bearing, and the remaining parts of the rolls be extended in opposite directiosn, as described, when the rolls are provided with flanches, the whole constructed to operate as and for the purposes set forth.

(79,429) Fifth-Wheel for Carriage.—Eliphalet H. Adams Detroit, assignor to himself and Charles F. Gardner, Pipestown, Mich.: I claim the construction of a circle or "fifth-wheel" for and carriages, as above described, with the ring C working in Babit metal, or other suitable material, confined in the circular-channelled disk A, when arranged and operating substantally as and for the purposes herein set forth.

(79,494) Carriage-Shackle.—F. B. Morse, New Haven, Conn.: I claim, *First*, A shackle, constructed with the recesses *a a* in each of the internal angles, so as to receive the block H, substantially as and for the purpose specified. *Second*, The block H, formed from India rubber, and with projections *d* upon each angle, corresponding to the recesses *a a* in the shackle, substantially as and for the purpose specified.

(79,495) Carriage-Wheel.—James Nevison and Thomas Nevison, Jr., Morgan, Ohio.: We claim, *First*, The return or hook *b*, and spring-spokes B, in combination with the key F, and hub C, substantially as set forth. *Second*, Spring-leaves E, bolted to and in combination with the spring-spoke, substantially as set forth.

(79,496) Metallic Hubs.—John Oliphant, Springhill Furnace, Pa.: I claim, *First*, The combination of the disk I, divided into the sectors or caps J J J′, the annular groove L, the projections M M M2, and the recesses N N1 N2, as and for the purpose set forth. *Second*, The bevels H H and T T, as and for the purpose set forth. *Third*, The combination of the boxes B B, tube A, mud-bands C C, and screws D D, substantially as and for the purpose specified.

(79,533) Spoke and Felloe Connection.—George Allen, Winchester, Mass., assignor to B. W. Conroy, Port Huron, Mich. I claim the within-described device, consisting of the tubular socket A, the transversely-concave seat or rest B, the attaching-arms C C, and the tenon or projection D, the latter being formed or cast with the metallic connection, and extending entirely through the felloe, in order to cause the tire to be supported by the said tenon D, substantially as and for the purpose set forth.

July 7. (79,602) Wagon and Carriage-Wheel.—Theodore Salorgne, St. Louis, Mo., assignor to Jacob Woodburn: I claim the felloe, perforated transversely at one or both sides of each spoke-mortise, and the screw-protecting wires inserted in these perforations, when constructed as herein described and for the purpose set forth.

(79,677) Bending Fifth-Wheel.—William Morgey, Wilmington, Del.: I claim the combination of the turn-table *d*, levelling-plate *b*, circle-plate *e*, the levers *m*, F, *g*, *h*, and O, rollers *i* and *j*, and slotted slide *k*, constructed and arranged as hereinbefore described, as a circle or elliptic bending-machine, for bending fifth-wheels and clip-circles of carriages, and sizing and lining clips.

(79,691) Carriage and Riding-Whip.—Reuben V. Sallada and George A. Pearson, Philadelphia, Pa.: We claim the construction and combination of a carriage-whip, when made and arranged in the manner and for the purpose specified, as a new article of manufacture.

(79,776) Whip-Holder.—A. C. Rand, Westfield, Mass.: I claim the combination of the base with the springs bent in the form of bows, as described and secured therein, all constructed and operating substantially as described, and for the purposes herein set forth.

(79,785) Sleigh-Brake.—George B. Stevens, Pluckemin, N. J.: I claim, *First*, The combination, with the turning-rod D, of the open bearings, constructed and applied to the cross-brace B, as and for the purpose set forth. *Second*, The arrangement of the open bearings, the flanged turning brake-rod, and the plates G beneath the side-pieces, as described.

14. (79,855) Wagon-Brake.—David Phillips, Cordova, Ill.: I claim the brake, consisting of the roller-bar B, having the blocks *d* pivoted thereon, with the lever D, supports C, and chains F, when said parts are constructed and arranged to operate substantially as described.

(79,891) Thill-Coupling.—Henry M. Beecher, Plantsville, Conn. assignor to H. D. Smith & Co., same place: I claim the improved shaft-connection, as made with the lips *a a* to its base, and in other respects, substantially as described and represented.

(79,909) Wagon-Seat.—Almon Hunt and C. C. Chapman-Macomb, Ill.: We claim the springs B B1, cross-pieces *b c*, hooks *b*1, pins *d*, and seat C, the whole being combined and arranged as described.

(79,916) Axle-Box.—Benjamin M. Pearne and Leroy Coville, Oxford, N. Y.: We claim the combination of the metallic box B and bands C C with the axle A, when said box has a central depression, and is enlarged at each end for the bands, as set forth.

(79,925) Tool for Fitting Bands on Hubs.—Charles E. Stone, Amsbury, and Alfred Herbert, Salisbury, Mass.: We claim the handle B, curved at *c c c*, and adjustably pivoted to the extension C of the handle A, by means of the set-screw *a* fitted into either one of a series of holes, *b b b*, formed in said arm C, substantially as and for the purpose herein shown and described.

(80,013) Machine for Dressing Felloes.—William H. Rodeheaver, Miamisburg, Ohio: I claim the convex and flanged rest or bed V, adjustable in height in the manner described, in combination with the cutter-head D and adjustable feed and pressure-rollers P, or their mechanical equivalents, the whole being arranged and adapted to operate substantially as set forth.

21. (80,055) Pole for Vehicles.—Edmund D. Brown, Battle Creek, Mich.: I claim the arrangement and combination of the spring-bow C and slotted arm-braces B with each other and with an ordinary vehicle-pole, A, substantially in the manner and for the purpose of adjustability, as set forth.

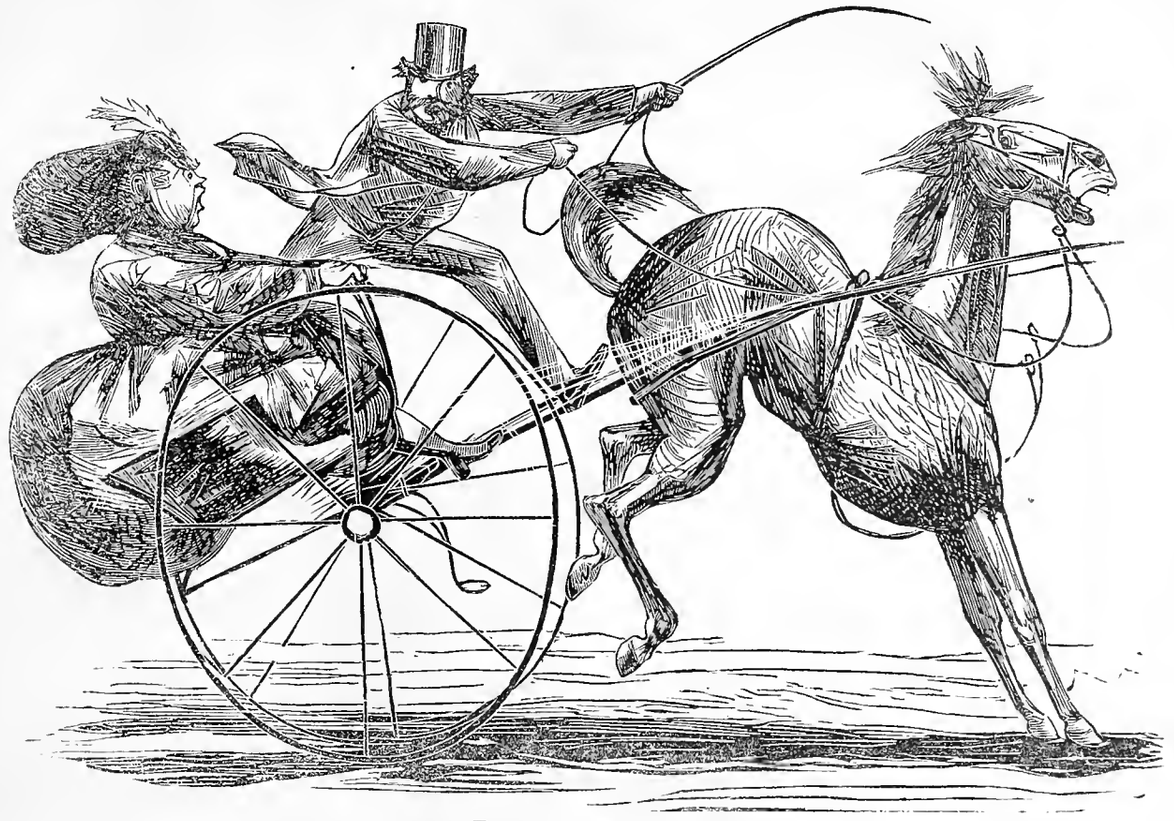
(80,085) Apparatus for Checking Horses Attached to Vehicles.—Maurice O'Connell, Boston, Mass.: I claim the combination and arrangement of the two gears 1 1, the two pinions 2 2, the shaft 4, the barrel 3, the yoke 5, and the slide 6, as applied to the two wheels and their axle, and as provided with a chain and hook, the whole being as and for the purpose specified.

(80,152) Thill-Coupling.—Lyman Derby, New York, N. Y.: I claim the combination of the elastic safety-strap H with the clip A and thill-iron F, substantially as described and operating as herein before set forth.

(80,180) Mode of Attaching Carriage-Tops.—William Horrocks, Poughkeepsie, N. Y.: I claim securing the slat-irons of a carriage-top to the supporting-pin A, by means of the separate pivots *a a*, formed upon either of the disks *b c*, which fit over the pin A, both disks being clamped together upon the slat-irons by means of the nut *d*, as herein described, for the purpose specified.

(80,201) Wagon-Brake.—William B. Morgan and J. H. Terrell, Antioch, Ind.: I claim, *First*, The combination of the arm or lever M, connecting-bar N, and pivoted lever O, with the rock-bar J, substantially as herein shown and described, and for the purpose set forth. *Second*, The combination of the stationary bar D, short levers F, rock-bar J, arms or levers K I M L, connecting-rod N, and pivoted lever O with each other, substantially as herein shown and described, and for the purposes set forth.

(80,202) Stump-Joint for Carriages.—F. B. Morse, New



TOO MUCH WEIGHT BEHIND.

Haven, Conn.: I claim, *First*, A stump-joint, consisting of the two parts A and B, joined by the plate C and pivots *d d*, when the said plate C is arranged and fitted into the parts A and B, so as to operate in the manner specified. *Second*, In combination with a stump-joint, the buttons or plates D D, arranged upon opposite sides of the joints, substantially in the manner herein set forth.

(80,206) SELF-PROPELLING VEHICLE.—Oscar D Padrick, Shelbyville, Ind.: I claim, *First*, The application of springs S, spring-cases G, spur-wheels *g'*, and spur-wheels *h* to shafts *n*, which are supported upon standards P upon the axle C, in combination with spur-wheels applied to the hubs of wheels B', and with means for winding up said springs S, substantially as described. *Second*, The arrangement of propelling-devices, which I have described, on both sides of the centre of the rear axle C, upon standards P, which can be readily removed from said axle, in combination with the winding-up rod E, applied to and supported by a removable plate, F, substantially as described. *Third*, In combination with driving-spurs *h h* and the devices which operate these spurs, brakes *t t*, applied so that they can be caused to act upon said spurs at pleasure, for stopping and starting the vehicle, and regulating the speed therof, substantially as described. *Fourth*, The lever *a*1 *a*2, applied to the rod *a*, on the front axle C, and arranged as described, in combination with a catch-plate, R, and a vehicle which is adapted for being propelled, substantially as described.

(80,214) THILL-COUPLING.—Isaac R. Potter, Dartmouth, Mass.: I claim making the clip C1 with projection *c*1, and slot *g*1 on and in one jaw of same, and the thill-iron D2 with projection *a*2 and arbor *d*2, made and operating substantially as and for the purpose specified.

(80,262) CARRIAGE-THILL COUPLING.—H. B. Willcox, Philadelphia, Pa.: I claim, *First*, The block B, with its recesses *d*, *e*, and *x*, and the block *f* of rubber, fitting the recess *x*, in combination with the bar A and its projection *b*, substantially as and for the purpose described. *Second*, The combination of the above, the flap *k*, and disk *i'*, substantially as and for the purpose specified.

28. (80,267) MANUFACTURE OF CARRIAGE-SHAFT COUPLINGS.—Henry M. Beecher, Plantsville, Conn., assignor to H. D. Smith and Company, same place: I claim the above-described process or method of making the shaft-connection blank, the same consisting in forming it with the head part A and the shank B, and subsequently cutting it through on the lines *e e*, and finally bending the portions *f f* around into right or nearly right angles with the shank part B. Also the machine, substantially as described, for creasing or cutting the blank, and bending the portions *f f* of it around into or nearly into right angles with the shank, such machine being composed of the bed-plate and standard, the two levers, the follower, and the two pairs of creasers or cutters, the whole being arranged for use in manner as specified.

(80,310) THILL-COUPLING.—Clark Robinson, Fox Lake, Wis.: I claim the socket D D, in combination with the pivot K, having a notch, M, the strap A, and stop E, substantially as set forth and shown.

(80,360) CARRIAGE-CLIP.—Thomas McCreary, Matteawan, N. Y., assignor to himself, George M. Sullivan, and John McCreary, same place: I claim, *First*, A carriage-clip, in which the pivot C is swivelled in the shaft, and inserted from above, into the slotted ears of the clip, and fastened to the latter by means of a spring-catch, E, or its equivalent. *Second*, The strap D, when rigidly secured to the pivot-pin C of a carriage-clip, for holding the spring-catch E, and for preventing the pin from turning as set forth. *Third*, A carriage-thill coupling, consisting of the clip A, shaft B, pin C, strap D, and catch E, all made and operating substantially as herein shown and described.

(80,377) CARRIAGE.—Job Whitehead, Ames Station, Iowa: I claim the combination of the springs I, shafts H, ratchets L pawls M, pulleys K, with the cross-piece F and framing, and with the pulleys O and axles B, when constructed and arranged substantially as and for the purpose described.

CURRENT PRICES FOR CARRIAGE MATERIALS.

CORRECTED MONTHLY FOR THE NEW YORK COACH-MAKER'S MAGAZINE.

New York, Sept. 18, 1868.

Apron hooks and rings, per gross, $1.25 *a* $1.75.
Axle-clips, according to length, per dozen, 50c. to 80c.
Axles, common (long stock), per lb, 7 1-2c.
Axles, plain taper, 1 in. and under, $5.50; 1⅛, $6.50; 1¼, $7.50; 1⅜, $9.50; 1½, $10.50.
Do. Swelled taper, 1 in. and under, $7.00; 1⅛, $7.50; 1¼, $8.75; 1⅜, $10.75; 1½, $13.00.
Do. Half pat., 1 in. $10; 1⅛, $11; 1¼, $13; 1⅜, $15.50; 1½, $18.50.
Do. do. Homogeneous steel, ⅝ in., $11.00; ¾, $11; ⅞, $12.00; long drafts, $2.50 extra.

☞ These are prices for first-class axles. Inferior class sold from $1 to $3 less.

Bands, plated rim, 3 in., $1.75; 3 in., $2, larger sizes proportionate.
Do. Mail patent, $3.00 *a* $5.00.
Do. galvanized, 3½ in. and under, $1; larger, $1 *a* $2.
Bent poles, each $1.00 to $1.50.
Do. rims, extra hickory, $2.75 to $3.50.
Do. seat rails, 50c. each, or $5.50 per doz.
Do. shafts, $6 to $9 per bundle of 6 pairs.
Bolts, Philadelphia, list. 30 off.
Do. T, per 100, $3 *a* $3.50.
Bows, per set, light, $1.00; heavy, $2.00.
Buckles, per grs. ½ in., $1, ⅝, $1.12; ¾, $1.25; ⅞, $1 75; 1, $2.00.
Buckram, per yard, 18 *a* 23c.
Burlap, per yard, 14 *a* 16c.
Buttons, japanned, per paper, 20c.; per large gross, $2.25.
Carriage-parts, buggy, carved, $4.50 *a* $6.
Carpets, Brussels, $1.75 *a* $2; velvet, $2.75 *a* $4; oil-cloth, 45 *a* 70c.
Castings, malleable iron, per lb, 16c.
Clip-kingbolts, each, 40c., or $4.50 per dozen.
Cloths, body, $3.50 *a* $5; lining, $2.50 *a* $3. (See *Enameled.*)

☞ A Union cloth, made expressly for carriages, and warranted not to fade, can be furnished for $2.50 per yard.

Cord, seaming, per lb, 35c.; netting, per yard, 8c.
Cotelines, per yard, $4 *a* $8.
Curtain frames, per dozen, $1.25 *a* $2.50.
Do. rollers, each, $1.50.
Damask, German cotton, double width, per piece, $15 *a* $22.
Dashes, buggy, $1.75.
Door-handles, stiff, $1 *a* $3; coach drop, per pair, $3 *a* $4.
Drugget, felt, $1.75 *a* $2.
Enameled cloth, muslin, 5-4, 40c.; 6-4, 75c.
Enameled Drills, 48 in., 55c.; 5-4, 50c.
Do. Ducks, 50 in., 75c.; 5–4, 70c.; 6–4, 80c.

☞ No quotations for other enameled goods.

Felloe plates, wrought, per lb., all sizes, 20c.
Felloes (Rims), $1.50 *a* $3.
Fifth-wheels, wrought, $1.50 *a* $2.00.
Fringes, festoon, per piece, $2; narrow, per yard, 18c.

☞ For a buggy-top two pieces are required, and sometimes three.

Do. silk bullion, per yard, 50c. *a* $1.
Do. worsted bullion, 4 in., 35c.
Do. worsted carpet, per yard, 8c. *a* 15c.
Frogs, 50c. *a* $1 per pair.
Glue, per lb, 25c. *a* 30c.
Hair, picked, per lb, 40c. to 65c.
Hubs, light, mortised, $1.20; unmortised, $1. Coach, mortised, $2.
Japan, per gal., $2.25.
Knobs, English, $1.40 *a* $1.50 per gross.
Laces, broad, silk, per yard, 60 *a* $1.25; narrow, 10c. to 16c.
Do. broad, worsted, per yard, 40c. *a* 50c.
Lamps, coach, $10 *a* $30 per pair.
Lazy backs, $9 per doz.
Leather, collar, dash, 29c.; split do., 15c. *a* 17c.; No. 1, top, 29c.; No, 2, enameled top, 27c.; enameled trimming, 27c.; harness, per lb., 50c.; flap, per foot, 25c.
Moss, per bale, 8c. *a* 15c.
Mouldings, plated, per foot, ¼ in. 14c.; ⅜, 16c. *a* 20c.; ½, lead, door, per piece, 40c.
Nails, lining, silver, per paper, 7c.; ivory, per gross, 50c.
Name-plates. (See Advertisement.)
Oils, boiled, per gal., $1.50.
Paints. White lead, extra, $14.00, pure, $15.00 per 100 lbs.; Eng. pat. black, 60c.
Poles, $1.25 *a* $2 each,
Pole-crabs, silver, $5 *a* $12; tips, $1.25 *a* $1.50.
Pole-eyes, (S) No. 1, $2.25; No. 2, $2.40; No. 3, $2.65; No. 4, $4.50 per pr.
Sand paper, per ream, under Nos. 2½ and under, $4.50.
Screws, gimlet, manufacturer's 30 per cent. off printed lists.
Do. ivory headed, per dozen, 50c. per gross, $5.50.
Scrims (for canvassing), 16c. *a* 22c.
Seats (carriage) $2 *a* $2.75 each.
Seat-rails, 75c. per doz.
Seat-risers, Linton's Patent, $2 per pair.
Seats, buggy, pieced rails, $1.75; solid rails, $2.12.
Shafts, $12 to $18 per doz.
Shaft-jacks (M. S. & S.'s), No. 1, $2.40; 2, $2.60; 3, $3.00.
Shaft-jacks, common, $1 *a* $1.35 per pair.
Do. tips, extra plated, per pair, 25c. *a* 50c.
Silk, curtain, per yard, $2 *a* $3.50.
Slat-irons, wrought, 4 bow, 75c. *a* 90c.; 5 bow, $1.00 per set.
Slides, ivory, white and black, per doz., $12; bone, per doz., $1.50 *a* $2.25; No. 18, $2.75 per doz.
Speaking tubes, each, $10.
Spindles, seat, per 100, $1.50 *a* $2.50.
Spring-bars, carved, per pair, $1.75.
Springs, black, 16c.; bright, 18c.; English (tempered), 21c.; Swedes (tempered), 26c.; 1½ in., 1c. per lb. extra.
If under 34 in., 2c. per lb. additional.

☞ Two springs for a buggy weigh about 28 lbs. If both 4 plate, 34 to 40 lbs.

Spokes (Best Elizabethport), buggy, ⅞, 1 and 1⅛ in. 9½c. each; 1⅛ and 1¼ in. 9c. each; 1½ in. 10c. each. 10 off cash.

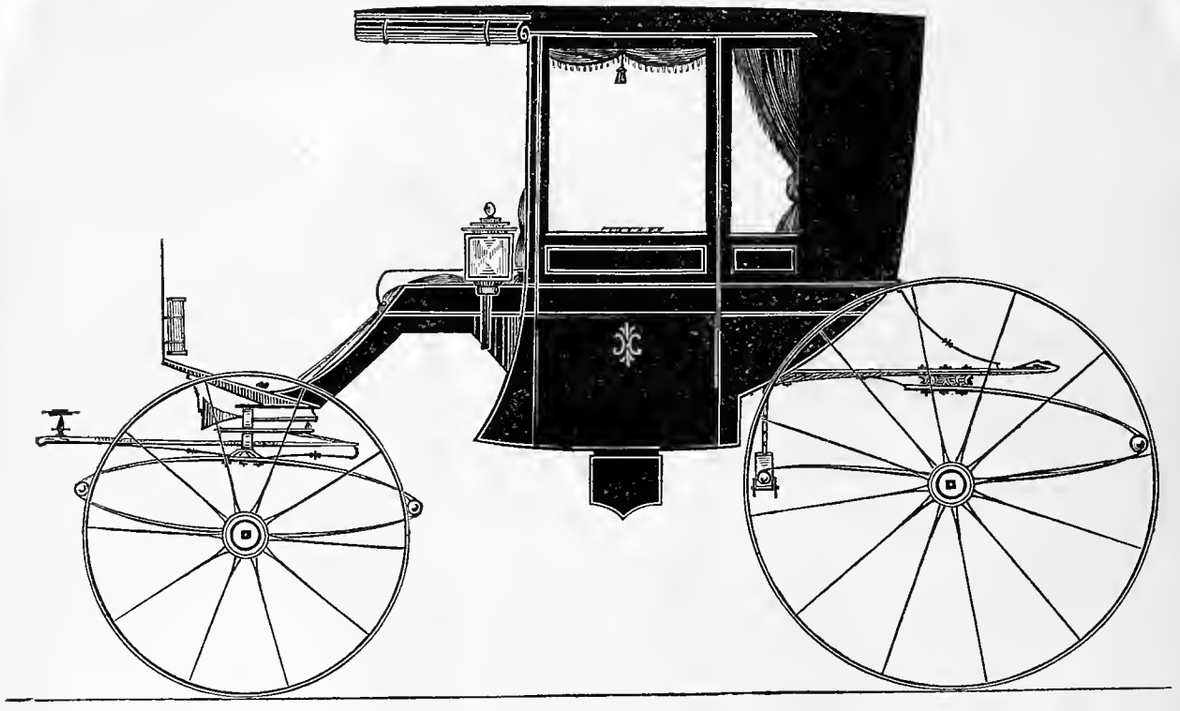
☞ For extra hickory the charges are 10c. *a* 12½c. each.

Steel, Farist Steel Co.'s Homogeneous Tire (net prices); 1 x 3–16, and 1 x 1-4, 20 cts.; 7-8 x 1-8 and 7-8 x 3-16, 23 cts.; 3-4 x 1-8, 25 cts.; 3-4 x 1-16, 28 cts.
Steel Tire—best Bessemer—net prices: 1-4 x 1 1-8, 15c.; 1-4 x 1, 15c.; 3-16 x 1 1-8, 16c.; 3-16 x 1, 16c.; 3-16 x 7-8, 17c.; 3-16 x 3-4, 17; 1-8 x 7-8, 20; 1-8 x 34; 1-16 x. 3-4, 23.
Stump-joints, per dozen, $1.40 *a* $2.
Tacks, 7c. and upwards.
Tassels, holder, per pair, $1 *a* $2; inside, per dozen, $5 *a* $12: acorn trigger, per dozen, $2.25.
Thread, linen, No. 25, $1.75; 30, $1.85; 35, $1.80.
Do. stitching, No. 10, $1.00; 3, $1.20; 12, $1.35, gold.
Do. Marshall's Machine, 432, $3.25; 532, $3.75; 632, $4, gold.
Top-props, Thos. Pat, wrought, per set 80c.; capped complete, $1.50.
Do. common, per set, 40c. Do. close-plated nuts and rivets, 75*a*80c.
Tufts, common flat, worsted, per gross, 15c.
Do. heavy black corded, worsted, per gross, $1.
Do. do. do. silk, per gross, $2.c. Do. ball, $1.
Turned collars, $1.25 *a* $3 per doz.
Turpentine, pr gl., 65c.
Twine, tufting, pr ball, 50c.; per lb, 85 *a* $1.
Varnishes (Amer.), crown coach-body, $5.00; nonpareil, $5.50.
Do. English, $6.25 in gold, or equivalent in currency.
Webbing, per piece, 65c.; per gross of 4 pieces, $2.40.
Wheels, $12 to 22.
Whiffle-trees, coach, turned, each, 50c.; per dozen, $4.50.
Whiffle-tree spring hooks, $4.50 per doz.
Whip-sockets, flexible rubber, $4.50 *a* $6 per dozen; hard rubber, $9 to $10 per doz.; leather imitation English, $5 per doz. common American, $3.50 *a* $4 per doz.
Window lifter plates, per dozen, $1.50.
Yokes, pole, 50c.; per doz, $5.50.
Yoke-tips, ext. plated, $1.50 pair.

TO READERS AND CORRESPONDENTS.

J. H. G. of Ill.—We refer you and all others in want of Decalcomanie to the advertisement of Janentzky & Co., in this issue of our Magazine. We do not know of any person who makes it his business to "furnish scroll and ornamental patterns, colored or shaded, for large and showy work, such as omnibusses, show-wagons," &c.

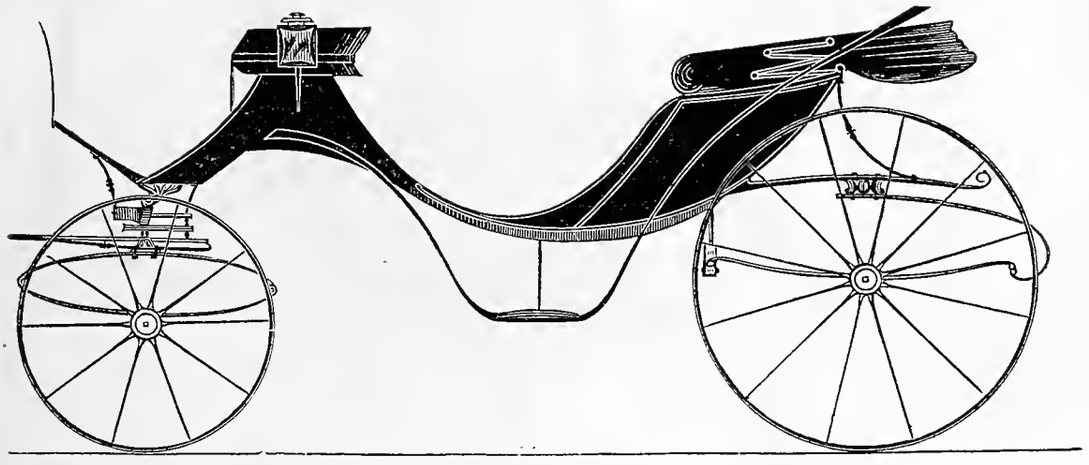
R. J. of Me.—We cannot send the "leaflets" as specimens at present, our supply having run out. This must excuse us in disappointing others who have written us for them. We may, however, get a new supply soon.



COUPÈ ROCKAWAY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

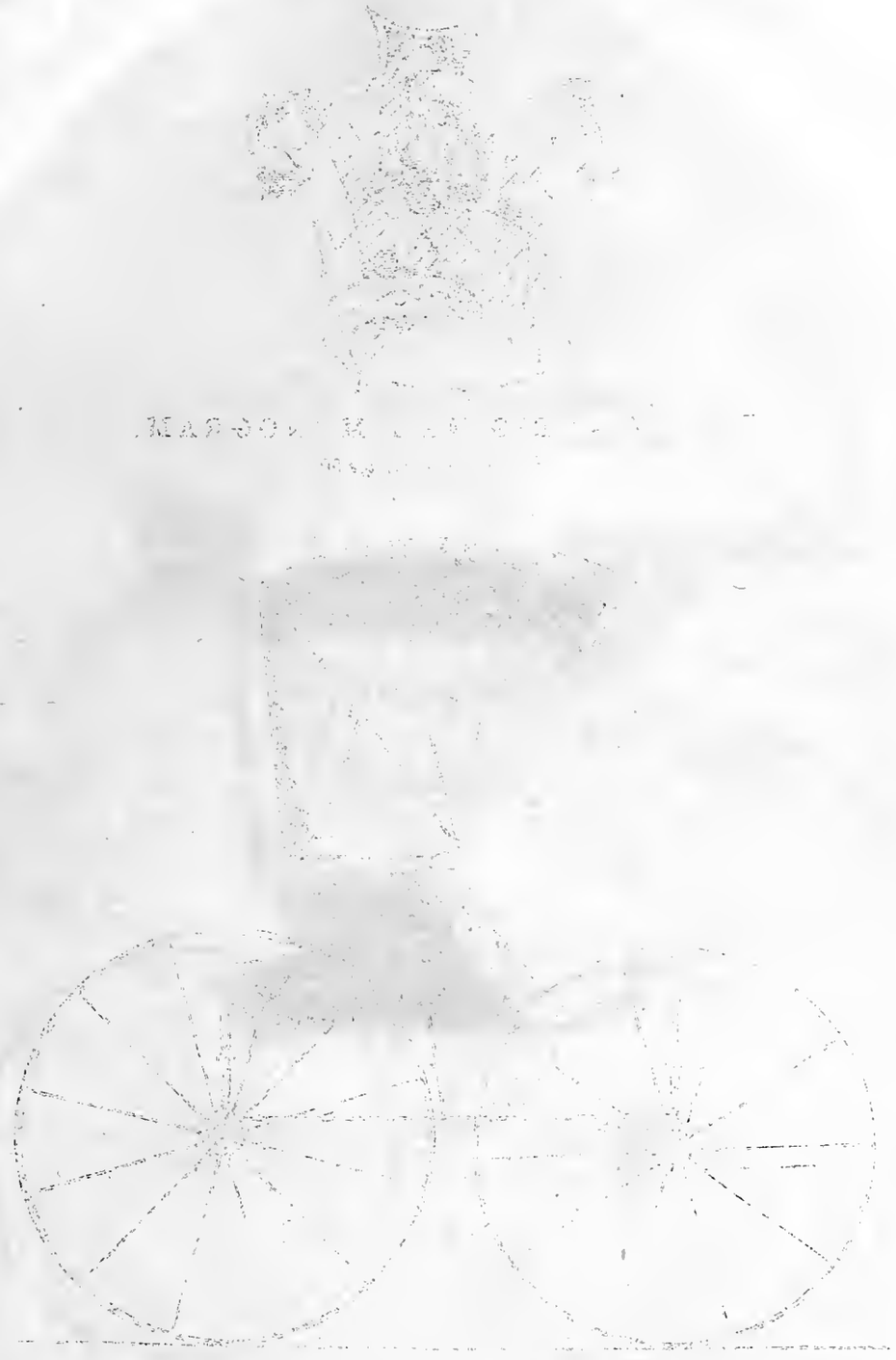
Explained on page 88.



VICTORIA PHAETON.—½ IN. SCALE.

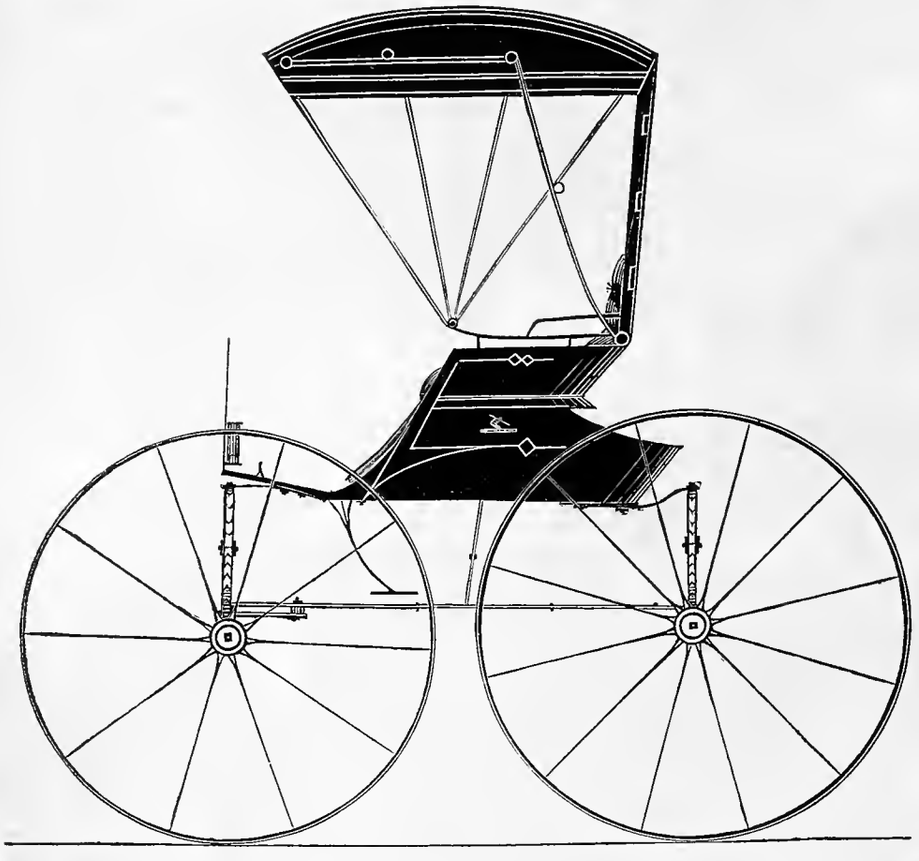
Designed expressly for the New York Coach-maker's Magazine.

Explained on page 88.



E. S. W.—ORIGINAL MONOGRAM.

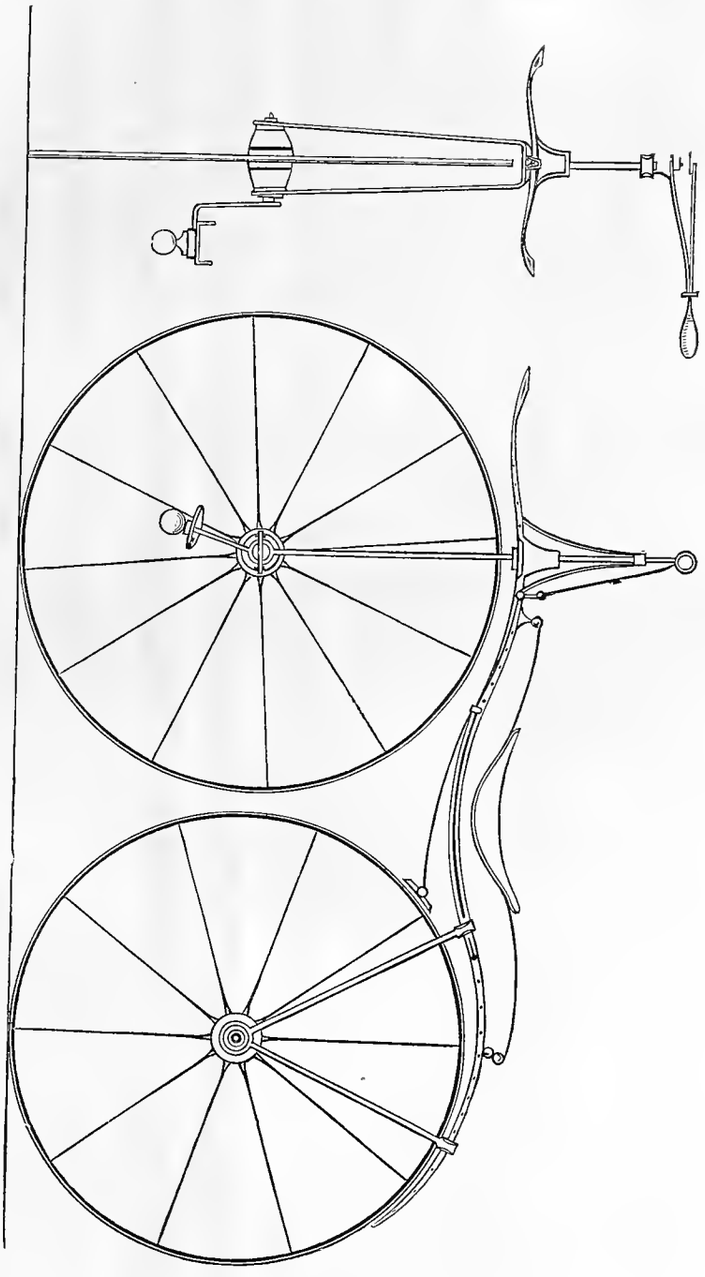
See remarks on page 90.



EXCELSIOR TOP BUGGY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

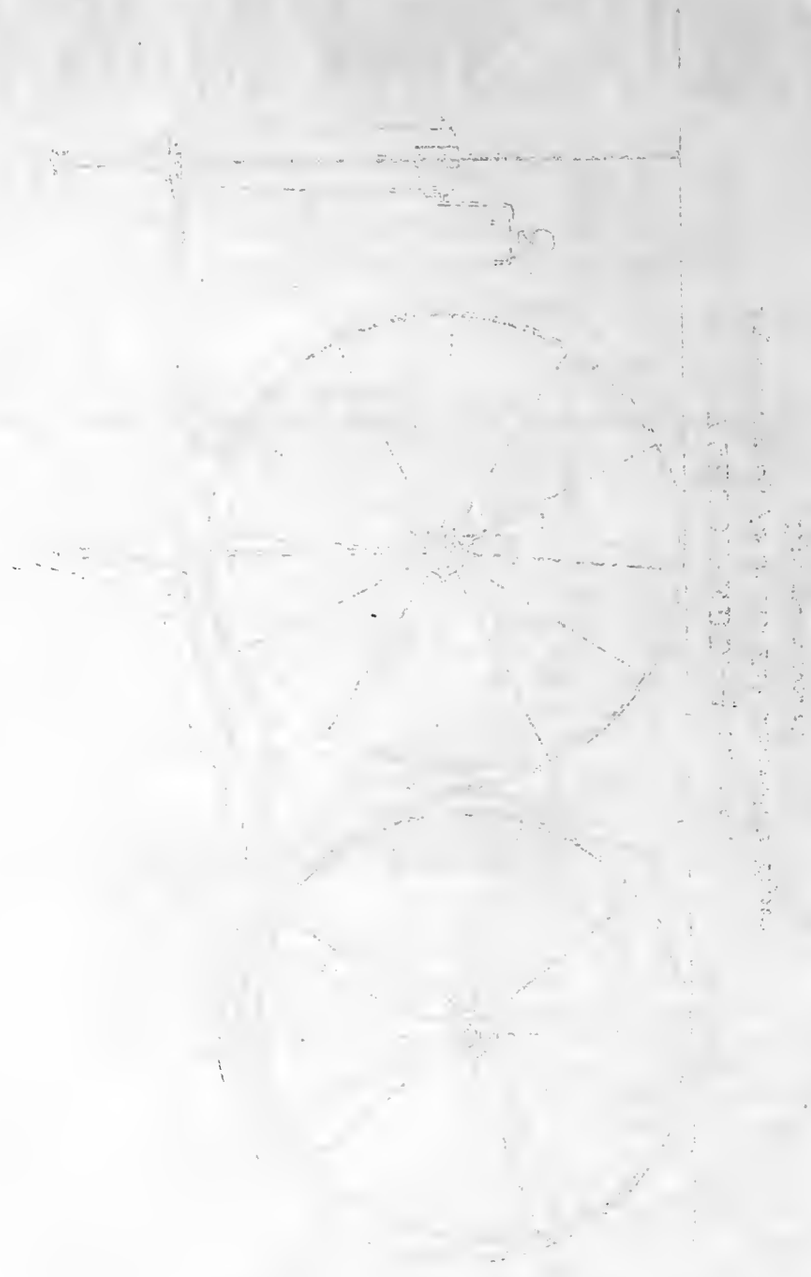
Explained on page 88.



VELOCIPEDE.—½ IN. SCALE.

Engraved expressly for the New York Coach-maker's Magazine.

Explained on page 88.



DEVOTED TO THE LITERARY, SOCIAL, AND MECHANICAL INTERESTS OF THE CRAFT.

Vol. X. NEW YORK, NOVEMBER, 1868. No. 6.

Mechanical Literature.

THE LAWYER MECHANIC.

BY H. S. WILLIAMS.

(*Concluded from page* 66.)

London, the county seat, was ten miles distant; and, after a sleepless night, Sherrod started on foot for Prairieville while the stars were yet shining, for he could not afford the expensive luxury of a ride. It was one of those calm and lovely mornings in May when "one feels a newer life in every breath," and in the still silence of that quiet hour he trudged on; but it wore no beauties to him. His thoughts all took one shape—that terrible trial—a poor boy, as he so truly expressed it, without money and without friends, against a rich and influential family. Truly there were no gaudy pleasures of hope to cheer him in that gloomy hour.

Day broke, the birds began to sing, all nature smiled and rejoiced in peace and harmony, and just as the sun was rising he reached a small river some two miles from town, spanned by a rough bridge, on which he saw a man standing. On approaching him he found it to be Wells the smith, dressed in the same rough garb as when we saw him first, and looking as uncouth as ever. To the lonely boy his poorest acquaintance would have been met with joy; but Mr. Wells somehow appeared to him superior to most men, and a smile played on his sad face as he bid him good morning, and for the first time he felt a faint thrill of hope. The only answer to his salutation, however, was a sharp look, almost a frown, and an abrupt question.

"Well, youngster, where are you going to so early? Running away?"

"No sir; I am going to court to stand my trial."

"Humph! greater fool you. You'd better be running away. What do you suppose you can do against Harvey and his money?"

"I do not know, I am sure; but do not suppose I can do anything."

"You suppose right. You will find the court-room the great iron door that opens to the penitentiary. You had better reflect before you go farther. Here is a road that leads to the river; take it and leave here."

"Oh! no sir; I never thought of such a thing. I must go on, else I will forfeit my bond."

"Your bond! What is the paltry sum of five hundred dollars to Mr. Grant and his foreman, in comparison to your liberty? A mere trifle, a sum easily made; and if you go off and go to work, you can soon make that amount and return it to them. Come, what say you; will you go to the river and freedom, or to the penitentiary?"

"I cannot leave, sir, and I will go on; perhaps it will not go so hard with me as you fear."

"Nonsense! It will go so hard with you that you will not walk in the open fields, or on the streets, a free boy, for the next twelve months. And that is not all. If the ponderous gates of the penitentiary once close on you, you are doomed for life, you are branded for ever, and every man's hand will be raised against you. You will be a *jail-bird*, to be kicked and cuffed on every side, insulted by the very boys in the streets, and your whole future life blasted. Think well on it. Here are ten dollars. Go to the river, and on the next boat leave this part of the country; you will not be pursued."

It was in a low but firm voice that the boy replied:

"No, sir; I cannot take your advice nor your money. It would be dishonorable, and I promised my mother on her death-bed that I would never do a dishonorable action," and a tear glistened in his eye as he attempted to pass on.

"Hold on," cried Wells, laying one hand on his shoulder, and looking him full in the face. "You are honest, at least, or you never could have withstood this temptation. You are right; it would be dishonorable. Go on to London and stand your trial; perhaps some unknown friend may be raised up to defend you against these proud autocrats, and stop their haughty footsteps when they seek to trample on God's outraged poor."

There was something inspiring in the words, as well as the manner in which they were spoken, that caused Sherrod to trudge on towards the town with a lighter

Entered, according to Act of Congress, in the year 1868, by E. M. Stratton, in the Clerk's Office of the District Court of the United States for the Southern District of New York.

heart, while Wells turned abruptly away, and, leaning against the guards of the bridge, seemed lost in contemplating the dark waters beneath and the beautiful scenery along the flowery banks.

"The next case on the docket is Harvey *v.* Sherrod. Are you ready for the case to proceed?"

"We are, your honor," answered young Harvey, who was seated beside the prosecuting attorney.

"Is the defendant in court?"

"He is."

"Which one?"

Sherrod was pointed out, and the judge asked, "Are you ready for trial?"

"Yes, sir," he answered, with his eyes fixed on the floor.

"Who defends you?"

"I have no one, sir."

"You have no lawyer engaged? Then you had better engage one. This is a very serious case, and you are too young to conduct it yourself."

"I have no money to pay the fee, and can't get one without."

For a moment the judge paused; then looking over the great number of unemployed lawyers lolling about on chairs, feet elevated on tables, and talking in half whispers together, he asked, "Is there no one here who will offer to defend this case? It is an excellent opportunity for a young lawyer, and his promise of a fee may be good some day. Will no one volunteer?"

Again there was a pause.

"I will, your honor," cried a clear ringing voice near the door, and from the center of the vast crowd of spectators Mr. Wells came forth and made his way down the aisle. A broad smile that ended in a suppressed titter from the assembled lawyers, greeted him as he entered the rail and took his place beside Sherrod. Even the judge smiled as he surveyed the man's garb, but it faded in an instant, and he asked, "Will you conduct this case for the defence?"

"With your permission and the consent of the bar."

"You have my permission. Has the prosecution any objection?"

Young Harvey immediately rose and said: "I believe it is the custom at this bar that no one, unless a licensed lawyer, can practice here, nor speak in any cause, save his own. I do not know as it is positively forbid—in fact, I think our statute-books are silent on the subject. I will waive all objections, however, and let the *gentleman*, as I suppose he is, despite his questionable appearance, display his legal acumen and defend the case."

The irony and insulting insinuation conveyed in this remark only caused Wells to curl his lips slightly, as he took a seat beside his client, and the case proceeded.

The charge was read, wherein Sherrod was accused of having made "divers and sundry assaults with sticks, bludgeons, and various murderous weapons, upon the person of one Curtis, the property of Harland Harvey, with intent to kill said Curtis," after which the two smiths before referred to were examined. Their testimony, however, was very brief. They were busy at work; remembered seeing the negro boy Curtis come in; saw him talking to Sherrod, and saw Sherrod hit him with the spring-bar and drive him out of the shop door. When the prosecution was done, Wells gave no cross-examination, which caused Harvey to give his colleague a hearty slap and knowing wink, in anticipation of the rich sport in store for them.

"Has the defence any witnesses?" asked the judge.

"Yes," answered Wells, "I wish to give in my testimony; please to swear me."

He was sworn. Then he gave a plain and distinct statement of the whole affair, stating that his forge was nearest the scene of the affray; he had heard all that passed, the remarks of the negro and his insulting language; all of which, through the questionings of the cross-examination, which he seemed to call forth at will, he managed to tell over three or four times, so as to impress it the more firmly on the minds of the jury. The case was now ready for argument. By mutual arrangement, Harvey was to open the case, when Wells should follow, while the prosecuting attorney would close. Harvey's speech was a singular compound of satire, abuse, and lame attempts at wit, without a single argument worthy of the name. He attempted once or twice to garble the evidence of Wells, particularly the language of the negro, and create the impression on the minds of the jury that no credence could be placed on it, because the other witness did not hear it; but he made such an absurd mess of it, that he soon left such dangerous ground. Most of his time was taken up with the audacity of the act committed by Sherrod, in his daring to touch a negro boy, the property of a wealthy family, and in ridiculing the appearance of the volunteer attorney, and ended by advising that worthy to return to his hammer and anvil, and leave the more exalted practice of law to those who had studied, and had the mental capacity to understand it.

There was a death-like silence pervading the entire room when Wells rose to reply. His uncouth appearance had one good effect in his favor, for it had excited the curiosity of all present, and caused judge, jury, bar and all others, to pay him their undivided attention. "May it please your honor," he commenced, in a low but clear voice, "that all members of the legal profession present, and more particularly the young gentleman who has just addressed you, may not feel their dignity compromised, and that they may disabuse their minds of all illegal proceedings in my daring to appear before this tribunal without the proper authority, I wish you to favor me by perusing this paper," and he handed a broad piece of parchment to the judge. The latter re-adjusted his spectacles, glanced over the paper for a moment, gave the speaker a searching look, then addressing the bar, said, "It is the license of Henry Wells to practice the profession of law in all inferior courts, and before the Supreme Court of the United States of America."

Again there was a death-like silence in the court-room, and the prosecuting attorney gave Harvey a knowing look, while that gentleman fairly sank in his seat, a perfect picture of consternation and despair, as the thought of the terrible castigation in store for him presented itself.

"May it please your honor and gentlemen of the jury," Wells continued, "while I have every respect for the talents of my young friend who has just addressed you, I must remind him that his abilities seem better fitted for the minor cases of our profession, as presented before justices of the peace, and very aptly termed *pettifogging*, than one presenting such profound principles of law and high qualities of justice, as the case before us." And then he commenced his argument, in language so lucid, yet in law so profound, going over the whole ground step by

step, presenting the evidence in colors so vivid, and in effects so startling, that even Sherrod raised his head while all traces of fear vanished from his face. Then he cited case after case, as precedents from the statutes of Alabama, for the guidance of the judge and the enlightenment of the jury, and then turning to his client, he presented him in a character so deserving of sympathy, his poverty and his honor, his friendless position as compared with the negro boy Curtis and his wealthy master, his strict integrity, not forgetting to narrate how he withstood the temptation at the bridge, and all in language so rich and copious, and in a voice so melodious, that the whole audience hung with charmed rapture on the music of his eloquence. Then turning to young Harvey, with a look that was easily understood, but without mentioning his name, he said, "If there is one act in the whole catalogue of that which is contemptible and wicked, one act that calls for the condemnation of all good men, it is the attempt of the rich and powerful to trample on the poor and defenceless;" and then such a castigation as he gave them, holding Harvey up as a type of his class, had never been heard in that old room before. Facts, painted with the most bitter invectives, satire, wit and pathos, were all blended in such harmonious colors; and in such terrible reality did he present the picture, the power of the rich and the suffering of the friendless, that Harvey buried his face in his hands, as if he would hide himself from the gaze of all present.

"Gold," exclaimed Wells, in a voice that rung through the old court-room, and with terrible emphasis "gold is a meteor of such dazzling brightness that it often eclipses the milder but more genial light of truth and justice—that truth which is eternal, and that justice which the ancients worshipped as a blind goddess, and which we in the boasted enlightenment of the nineteenth century, proclaim as the corner stone of the imposing fabric which we have reared and dedicated to republican liberty."

After he had taken his seat, there was an oppressive silence: so great was the spell which his eloquence had thrown over the minds of all present; and not until after the judge had requested the prosecution to close the case, did they throw off the infatuation, with a sigh of relief not unlike that which one feels after passing through some terrible ordeal—a charge in a battle for instance—the relief which comes with the knowledge that all danger is passed.

The prosecuting attorney, however, did not attempt to speak, only to state that the case was submitted without further argument, while Harvey did not even raise his head.

The judge's charge was very brief. He merely reminded the jury that they must not overlook the evidence in the case, in their sympathy for the accused, for although no proof had been adduced of an intent to kill, yet the assault had been committed. Without leaving their seats, the jury returned the verdict in accordance with these instructions, viz., not guilty of intent to kill, but guilty of an assault, which they considered justifiable under the circumstances. The judge immediately sentenced Sherrod to pay the lowest fine imposed in such cases—five dollars—which was no sooner given than a dozen hands were eagerly stretched towards him with the amount, and in five minutes he was free. Then all the prominent members of the bar gathered around Wells, and even the judge descended from his desk and congratulated him on one of the ablest efforts he had ever listened to.

"Zounds!" exclaimed Grant to his foreman, as they left the court-house, "what a speech that was. I always knew that he was a smart fellow, as well as a first-class workman."

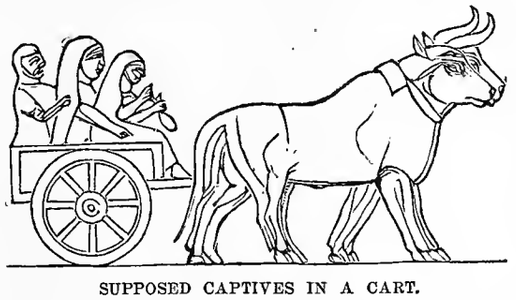
As for Wells, he did not remain at the forge long. His fame in the assault case extended far and wide, and cases crowded in upon him until he was forced to leave the shop and devote himself to the practice of law, and ere long his fame as a criminal lawyer extended throughout the State.

When the war broke out, he was among the first to volunteer, and one of the first to fall upon the field of battle; but even to this day, the elder members of the London bar will tell you that Wells' speech in defence of young Sherrod, was one of the most brilliant forensic efforts they ever listened to.

OUR ASSYRIAN CARRIAGE MUSEUM—VI.

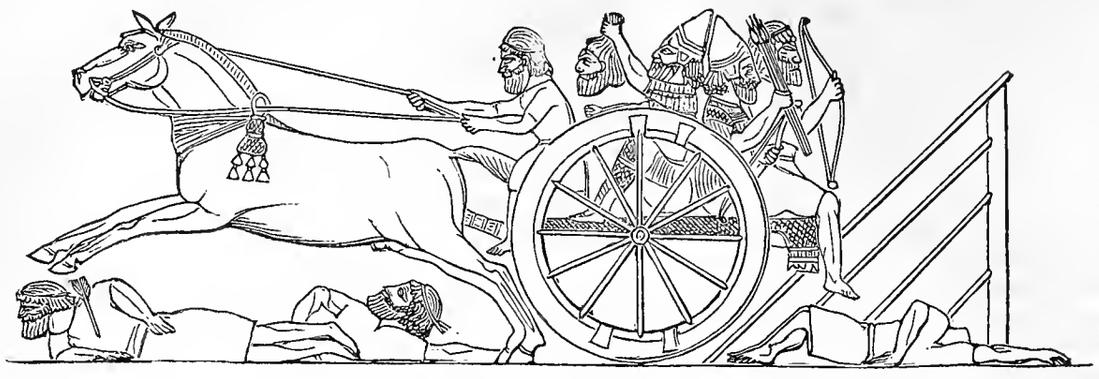
In the preceding chapters we have given our readers a fair specimen of about all the different forms of chariots illustrated by the bas-reliefs found in the ruins of Nineveh by Layard and Botta, up to the present time. We shall therefore, in this closing chapter of the series, turn our attention to an examination of the vehicles in use among cotemporary nations with whom the Assyrians were at war at different periods, and which as trophies of their success were considered of sufficient importance to find a place on these ancient pictures of a nation's history.

In addition to the chariots, carts are found on the bas-reliefs, one of which is represented in the annexed engraving. This is supposed to represent a cart from some nation cotemporary with the Assyrian, which was taken in battle, and in which the women are being carried into captivity. The cart has a wheel with eight spokes, and is drawn by a yoke of oxen. As the palm-tree is shown on the slab from which this picture is taken, the inference is, that the captives are inhabitants of some part of Babylonia, or else possibly of Judea, against which, as we have seen, Sennacherib led an army of invasion. If we take the Assyrian version of this interesting event to be correct—but which conflicts with that of the sacred historian—we find the king saying, "Because Hezekiah, King of Judea, did not submit to my yoke, forty-six of his strong-fenced cities, and innumerable smaller towns which depended on them, I took and plundered, but I left to him Jerusalem, his capital city, and some of the inferior towns around it. . . And because Hezekiah still continued to refuse to pay me homage, I attacked and carried off the whole population, fixed and nomad, which dwelled around Jerusalem, with thirty talents of gold and eight hundred talents of silver, the accumulated wealth of the nobles of Hezekiah's court, and of their daughters, with the officers of his palace, men slaves and women slaves. I returned to Nineveh, and I accounted their spoil for the tribute which he refused to pay me."



SUPPOSED CAPTIVES IN A CART.

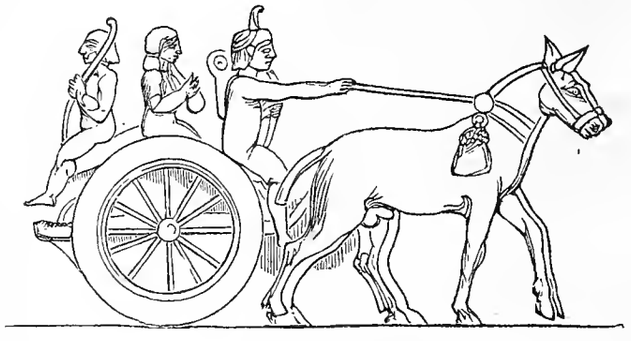
In the next drawing we find a sort of cart of very simple construction, mounted on exceedingly high wheels,



ELAMITISH CART IN THE SERVICE OF ASSYRIAN SOLDIERS.

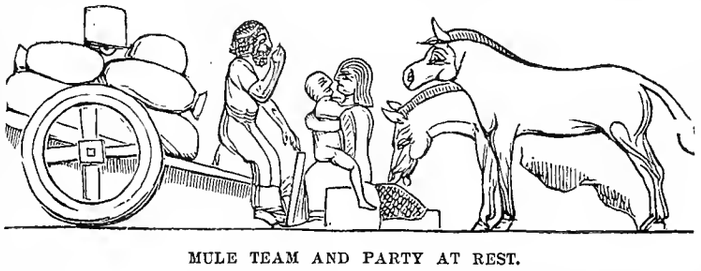
having in them twelve spokes. This cart is supposed, from an accompanying description, to have been captured from the Elamites. On it we find Assyrian soldiers mounted, in the act of driving furiously over the battle-field, regardless of the bodies of the slain and wounded with which it is thickly strewn. As usual with the ancients when recounting their warlike deeds, no Assyrians are found to have been killed on this occasion.

Some of the bas-reliefs represent these carts as drawn by mules. Such is the case in the copy here represented,



CART DRAWN BY MULES.

mounted on which are shown some of the captives of Sennacherib, carried off from Susiana. These simple machines were not only used for the transportation of merchandise from one place to another, but instead of chariots for purposes of war—some of them being capable of seating five or six persons, as we have seen in a preceding example, where the floor is covered with a sort of carpet, set with fringes.



MULE TEAM AND PARTY AT REST.

In some of the smaller carts represented on the bas-reliefs, we find only the driver and a single warrior sitting upon a raised or elevated seat. Layard supposes this description of cart—"or wheels"—alluded to by Ezekiel, where he speaks of "the chariots, wagons and wheels," belonging to "the Babylonians and all the Chaldeans, Pekad, and Shoa, and Koa, and all the Assyrians," who should come up against Jerusalem. (Ezekiel, xxiii: 23, 24.) The harness of the mules was of the most simple description—a simple band around the chest, with rosettes, tassels, and a head-stall. Sometimes the guiding of the animal was performed by a rod in the hand of the driver.

One bas relief represents a party of captives at rest, having unharnessed their mules from a loaded cart and fed them with grain of some kind, which they appear to be eating. Between the mules and the cart a woman is seated on a stone, holding a child. In front of her appears a man, probably her husband, drinking from a cup in the most primitive fashion. A remarkable feature in this cut is, it has only a four-spoked wheel, the whole being very rude and clumsily made.

IRON RAILS ON COMMON WAGON ROADS.

AMERICAN wagon roads are proverbially bad during a large portion of the year. In spring, while the frost is coming out of the ground and until they are settled by the vernal rains, they are for heavy loads well nigh impassable. Nothing is more common at that season than the spectacle of a wagon sunk to the hub in some slough of despond, with its attendant driver up to his knees in mud, vainly endeavoring, by the aid of some fence rail borrowed for the occasion, to pry it out, at the same time shouting in terms far from elegant to his bedraggled and exhausted team. In the fall, the rains having first changed the consistency of the earth into mortar, the frost consolidates the ruts formed by the wheels, so that there is scarcely any choice between the state of the roads at that season and the spring mud. During the summer any heavy rain breaks up the highways into gulleys, and also approximates them to the delectable state which they assume at the close of winter.

There is no work done by the people that is more remunerative than the repair of public roads, and none that is more grudgingly performed. The prevalent custom among the agricultural population is to work out the road tax annually levied, and this work is too often a mere sham, the time being allowed by the path-masters while no corresponding amount of labor has been performed.

Some years since, when the plank-road experiment had proved a failure in this country, a good deal of discussion took place in regard to the permanent improvement of roads, and among other things it was suggested that iron rails, upon which the wheels of ordinary wagons might run, would prove the best means of effecting the desired object. Horse railroads were then in their infancy. The experience which has been gained since that time has proved their durability. The expense of construction and repairs has been shown to be even less than that of a first-class McAdam road, while the wear upon vehicles and horses is less.

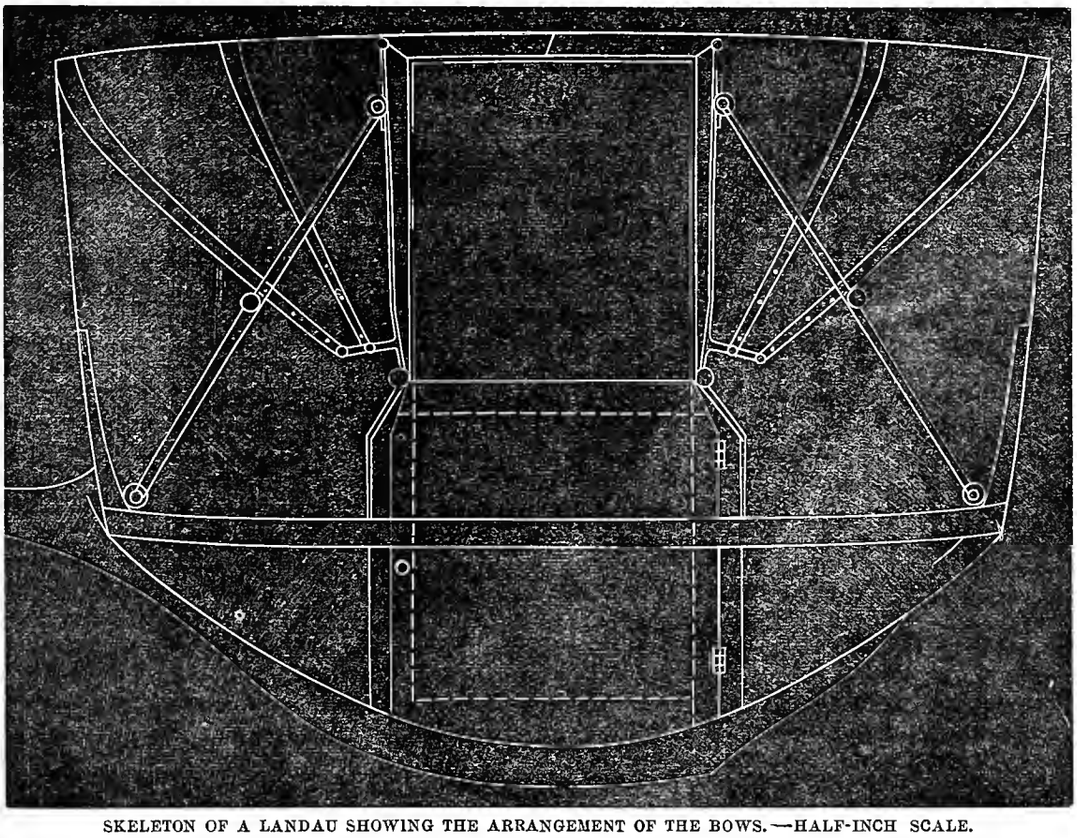
The proposition to construct common roads upon this plan is favorably viewed in England. The London *Times*

recently published a communication strongly advocating its adoption upon the entire road system throughout the kingdom, and demonstrated its entire practicability for all sorts of soils, including bogs and mucky deposits. It also shows that to lay such roads throughout the kingdom would cost only one-half as much as the steam railways now in operation in that country. It advocates the adoption of locomotive engines of a particular type, but we think that for public highways this is generally impracticable. What we want in America is that our principal highways should be in good condition at all seasons for vehicles drawn by horses, and this result can doubtless be secured by a railway differing in no important particular from those in use in the streets of the large cities in the United States. We believe such roads would prove remunerative, and at once be viewed with favor in many localities as a substitute for the plank-roads which have so generally proved a disappointment.—*Scientific American.*

HOW TO KEEP GLUE FROM SPOILING.

Mr. Editor.—*Dear Sir:* Observing in different numbers of your Magazine communications containing useful directions for the practical mechanic, to enable him to keep his glue from spoiling or smelling bad, I propose to give your readers a plan I have adopted for several years: After the glue has been soaked, and is well softened, before placing it over the fire to boil, apply to a quart pot of glue about one teaspoonful of keg white lead. It will not only prove a disinfectant of the disagreeable smell arising from spoiled glue, but also make it water-proof. If the manufacturers of pure white lead, who advertise so liberally, would, in the manufacture thereof, mix the stone called bitre, the glue would prove a detective of their false practices, as the article floats upon the top of melted glue.

J. B. Peek.



SKELETON OF A LANDAU SHOWING THE ARRANGEMENT OF THE BOWS.—HALF-INCH SCALE.

LABOR.

Labor is almost everything to the working man. Deprived of it he becomes dependent on alms. Hence, to him the especial importance of health. This depends largely upon attention to the laws of health. An education in this particular is calculated to promote the happiness of the working man's home almost beyond that of anything besides.... Education refines and softens the manners, suppressing boorishness and begetting self-respect, which leads to a respect for others. If instead of spending his leisure hours in the grog-shop—as we are sorry to find many mechanics do—he would spend them in study at home, he would find this a more effectual way to dignify labor than any other.

GEOMETRY OF CARRIAGE ARCHITECTURE.

BY A PRACTICAL COACH-MAKER.

CONSTRUCTION OF THE BOWS FOR A LANDAU HEAD.—PART TWENTY-EIGHTH.

From the skeleton which we present on this page, the reader may learn how to construct the bows for the top, or head of a Landau, as well as the arrangement of the slat irons. There are three slats over the door. The bow-props should be screwed on the edge of the bow, instead of the outside, as in the common way, which gives it additional strength. The engraving so well explains itself that we need not take up our valuable space with further details.

Home Circle.

A DAY ON THE WARAMAUG.

BY THE EDITOR.

Away up among the hills of Litchfield County, in the nutmeg State, is located one of the sweetest little lakes to which a care-worn and suffocating city biped may betake himself for a few days' recreation and pleasure. Although not as world-famed as Long Branch, Saratoga or Newport, yet those who love quietude and solid comfort, as distinguished from show and bustle accompanied by over-crowded lodgings, will find this *watering-place* one of

the most *sensible* summer retreats anywhere to be found within a hundred miles of Gotham. A soothing consideration in the moderate mind is the reflection that it will not require the earnings of an entire year in payment of one's hotel bills, to purchase all the comforts required during a short stay in this delightful and picturesque locality, only a few dollars being necessary to satisfy all charges, as *the hotels* here are all country farm houses. When they learn "how to keep a hotel," doubtless prices will advance, and "comforts" diminish in a like ratio.

One day in August—the 24th—a lively party of eighteen persons—eight gentlemen and ten ladies—one of which was the writer, having stowed themselves away in three wagons, with an ample supply of "ammunition for the stomach," started early in the morning for a seven-mile drive through one of the most diversified routes of hill and dale imaginable. Every turn of the road presented new beauties to the eye which never ended, except with the journey. Once at the lake, all were active in making preparation for the day—some for fishing, and a few in preparing for *a bite* on the land, which, to the discredit of the lake, we are free to acknowledge, was, upon the whole, the most *entertaining*. For our reputation, the less said about the fishing the better, for, having toiled all day, we caught—a sun-burnt face only, while our *compagnons du voyage* had but little better success. It was some consolation, however, to hear from others that the fish bit well the day before, but, as usual, discouraging to find that (as ever) we were just one day too late. We tried our best on this occasion *to hook* a daring pickerel who had taken up his quarters near the shore, but unsuccessfully, as he would neither bite the baited hook nor be hooked with a baitless one. We tried *fooling* with him for at least fifteen minutes, and then, he being disgusted with our ill-success left for deeper water.

Better success, however, attended the picnic on the shore. Here, on rustic tables, among the trees, our sharpened appetites were satiated with home-made bread golden buttered, cakes, pies, puddings, green corn roasted Indian fashion, milk, and other delicacies which go to make up refreshments for the inner man and please the taste. This noon's entertainment repeated again at night, left nothing more for us to do than return again in the evening the road we came, by the silver light of the moon; at the end of which journey "tired nature found repose in balmy sleep." When again the same party visits Waramaug, we hope to be one of the number—to do the eating.

HOW ASIA AND I MADE MONEY.

BY MARY A. E. WAGER.

We put our heads together for consultation. This consulting duality consisted of Asia Huntley and myself, Marcia Vance. The burden of our souls was how we, two spinsters, she twenty-four and I twenty-six, could pay our daily expenses and enjoy a generous margin beside.

We were both well educated and accomplished, more so than most women; had seen travel, been reared in and accustomed to the best society, and both thrown upon our own resources, she by bereavement and I by the unkindness of circumstances. It seemed a kind of fatality that brought us together. She was from an eastern city and I from a northern town, and we met for the first time in a second class boarding house in New York.

The object in coming to New York was the most natural one in the world; every body else did, and then we knew that in a great city we could work, or starve for lack of it, and our friends be none the wiser for it. Moreover, we should escape the unpleasantness and bitterness of meeting with old associations under our changed circumstances, and feel the sting of cold looks and still colder words.

We had been discussing the bread and butter question for several days, and in the mean time looking about us, feeling the pulse of men and women whom we knew were not only philanthropic, but would give us their best advice.

Asia's leading idea was the everlasting *teaching*. She hated it, but it had an air of "respectability" about it; and it is the hardest thing imaginable, for an individual to lose his hold on affluence, and at once be ready and willing to accept any avocation for support, if it is not shrouded in what seems "eminently respectable." It usually requires a few days, at least, of pretty sharp starvation, to take the sham pride out of him and fill in the vacancy with common sense. So Asia wandered around to get a position as teacher of music, drawing, or the modern languages,—but with ill success. Then she went to the superintendents of the various schools, and for every position she learned there were already five hundred applicants, and as she didn't expect to live five hundred years, she was ready to abandon the teaching method.

As for myself, I had as great a weakness towards a journalistic life. For could I ever forget what the dear, old grandmother said when my first essay on "Death," and first poem on "Spring," appeared in the corner of the local paper? "Sure, an' the child has gen'us, and if she ever has to work for her livin', she may do just as Harriet Beecher Stowe did." There's nothing like encouraging budding genius, and if that be one of the saving Christian virtues, the editors of most country papers will find St. Peter to be gracious. Whatever may have been my own ideas of my peculiar fitness to cater to the public intellectual tastes, I did not seem to possess the faculty of impressing the editorial fraternity favorably. I found editors almost invariably to be kind and willing to aid me, but they had not the power to do so. Their corps of aids was full, and their waste baskets filled with unused and unneeded manuscripts. They had a dozen similar applications a day, perhaps, and advised me to direct my "talents" to some other work not so overcrowded!

Finding ourselves at bay in our pet schemes, we made memoranda of woman's work, beginning at shop keeping, and going successively down the rounds until we reached the basement—the servant's domain. "We cannot sit and stitch all day," proclaimed Asia desperately, "for that would kill us in no time. And then there's a milliner and dressmaker for every distinct body in christendom. And as for tending shop all day, or being domineered over by any body, I could not stand that. I declare, I believe I half envy the organ grinders in the street. They at least are masters of their own time and localities for business. By the way, there's a woman who is creating quite a furore every night by singing in the street near Gramercy Park and Fifth Avenue Hotels. She never appears only after dark, and sings most magnificently airs from the opera and the most difficult

music. She veils her face, is accompanied by a little girl, and answers questions put to her only by monosyllables. The general impression seems to be that she has once been in affluent circumstances, and prefers supporting herself in this semi-clandestine way of singing, rather than to go on the stage where she would be recognized at once. She is most liberally patronized: gentlemen often throwing her a dollar in lieu of a penny—that is *one* way, Marcia, to *sing* your way through the world." And Asia began a trill from Mendelsohn.

"I am afraid the market is glutted with accomplishments as well as 'genius!' The truth is, Asia, if we could only hit upon something *unique*, we should make our fortune, for New Yorkers are forever aping after something novel and new. And so long as we have to push our own way in the world, I do not believe it well for us to reject any aids or avoid any avenue that may lead to support, even if it is not refined and nice, if it be only honest. If we *work* for a living, we are nobody any way, socially considered. And I give my vote to do that by which we can make the most money, honestly, and thereby get out of the dust and filth of struggling for a shelter, the sooner. Desperation begins to breed a sort of don't-care-ism, and if there is a realm of manocracy to be invaded as Elizabeth Blackwell did the medical kingdom, let us ascertain it if possible. Men have come to fitting ladies' dresses, and I am sure we can't do much worse by jumping on their side of the fence. I was in Europe two years ago, and you were in South America, and were there no vocations followed by women in either of those countries that we could transplant to these 'inhospitable shores?'"

Asia sighed dubiously. After a little she said: "I remember in one of the pleasantest quarters of a Brazilian town, of a good natured duenna who kept what we term a barber shop, and father declared her a great expert."

"And I remember the same thing of Paris," I hastened to rejoin. "Large pleasant rooms, and the hairdressers, shampooers, shavers, etc., were all trim, deft girls, trained to the work by the proprietor, a madame somebody, who, it was said, had amassed an immense fortune. Her customers were of the richest families, and it was not uncommon for a man of rank to be seen in her rooms, dozing in an easy chair, while the white fingers of a pretty young demoiselle were putting his hair and beard to rights with the usual aids of scissors, razors and pomades. The madame employed only girls of unimpeachable reputation and prudence, but of good manners and address."

"Well," broke in Asia, "that's just the work for us! And—and, Marcia, I already begin to feel the greenbacks bursting through my purse," holding out her lank portmonnaie, hysterically. The upshot of the matter was, that at the end of a month we had a suite of rooms on Broadway, not far from the Fifth Avenue Hotel, fitted up neatly, as we both together had about five hundred dollars ready money. We had been so fortunate as to find a couple of French girls who had had some experience in the art, and who were only too glad to get employment. We put up our sign:

MISSES SEWELL,
HAIR DRESSING AND SHAVING NEATLY DONE.
FRENCH AND AMERICAN ARTISTS IN ATTENDANCE.

At the end of the first month we found that we had just cleared ourselves from expenses. It was somewhat amusing to see the uncertain expression on men's faces, when coming in for the first time. But we never lost a customer, as our straight-forward business manners, and admirably arranged accommodations, settled the matter of "respectability," and our girls were every day becoming more and more accomplished in their work. By a judicious distribution of complimentary tickets to the editorial fraternity, we succeeded in getting the best press recommendations: some even going so far as to praise our undertaking, and wondering it had not been done before, as it was common in Paris, etc.

At the end of the year we paid our expenses and had three thousand dollars to deposit in the bank. Our reputation was established, our patronage large, and the best in the city, and the future promised splendidly. Our fears of being recognized had been realized only once, and that in my own case at the French theatre, at one of Ristori's matinees. Feeling some one touch my shoulder gently, I turned about and saw a woman elegantly attired, but whose face was wholly unfamiliar.

"Pardon me," she said, "but were you not in Europe, two years ago?"

"No, madam, I was never abroad."

"I *certainly* thought I had met you there. 'Tis very strange, indeed; you are not an American, are you?"

"I am, I believe," I answered.

After some silence she again touched me and said,

"Are you an *artist*?"

"No," I said, feeling a little queer.

"Pardon me, but does your name begin with a V?" she asked, mysteriously.

Again I replied in the negative.

"Do you live in New York?"

"Yes, I have a barber shop on Broadway. Here's my card; will be happy to serve you any time,"—and burst into a sort of nervous laugh, when all at once I found Josephine's eyes staring at me questioningly.

"Why, what's the matter?" I yawned out.

"Matter enough, I should say. Here you've been sleeping these two hours, talking about barbers, and madames, and greenbacks, until I began to think you were delirious."

So it was only a dream after all, that was a mixture of conversations and incidents which had actually occurred and woven themselves together in the phantasmagoria of an over-worked brain. However, as there seemed a "method in the madness," I have written it down, believing the scheme a good one, and unique enough to insure the fortune of whomever undertakes it and conducts it worthily.

EIGHT-HOUR LAW—Are the advocates of the eight-hour law prepared to accept all the results? It is a poor rule that won't work both ways. If men ought to labor but eight hours a day, why should their wives be obliged to toil longer? It is said that an eight-hour-a-day man, on going home the other evening for his supper, found his wife sitting in her best clothes on the front stoop, reading a volume of travels. "How is this?" he exclaimed. "Where's my supper?" "I don't know," replied the wife; "I began to get breakfast at six o'clock this morning, and my eight hours ended at two P. M.

Pen Illustrations of the Drafts.

COUPÉ ROCKAWAY.

Illustrated on Plate XI.

COUPÉ ROCKAWAYS are peculiarly American, and they have a strong claim on the public, as being the most convenient carriage for all kinds of weather we have among us. The combination of the rockaway with the coupé, dates only a few years back; but the readiness with which they have been received into favor, is really astonishing. The drawing here given is an original one, furnished by one of the artists in our employ, and is a very superior design of a very elegant class of carriages. The only objection to it, is, it makes a rather heavy vehicle, and is only capable of carrying four passengers, including the driver, while it is nearly as heavy as the six-seated rockaway carrying two more. A first-class New York built carriage, after this pattern, sells for $140.

VICTORIA PHAETON.

Illustrated on Plate XXII.

THIS drawing is from another contributor to this Magazine, in New York city. We do not claim for it any special novelty, although we do not lightly esteem it, by any means, on account of its beauty. It has some graceful lines, which will commend it to every gentleman of refined taste. The wheels are 2 feet 6 inches and 3 feet 3 inches high; hubs, 4x6½; spokes, ⅞ inch; rims, 1 inch; tire, ⅞x¼ steel. The cant-board on page 36, volume IX., will answer, in all its essential points, for the construction of this body, likewise.

EXCELSIOR TOP BUGGY.

Illustrated on Plate XXIII.

THE chief novelty in this drawing is found in the design painted on the side panel of the body. Otherwise, it is so much like others of the coal-box pattern published in this Magazine, that we need not enter upon further details. A buggy of this kind sells in New York city for about $450.

VELOCIPEDE.

Illustrated on Plate XXIV.

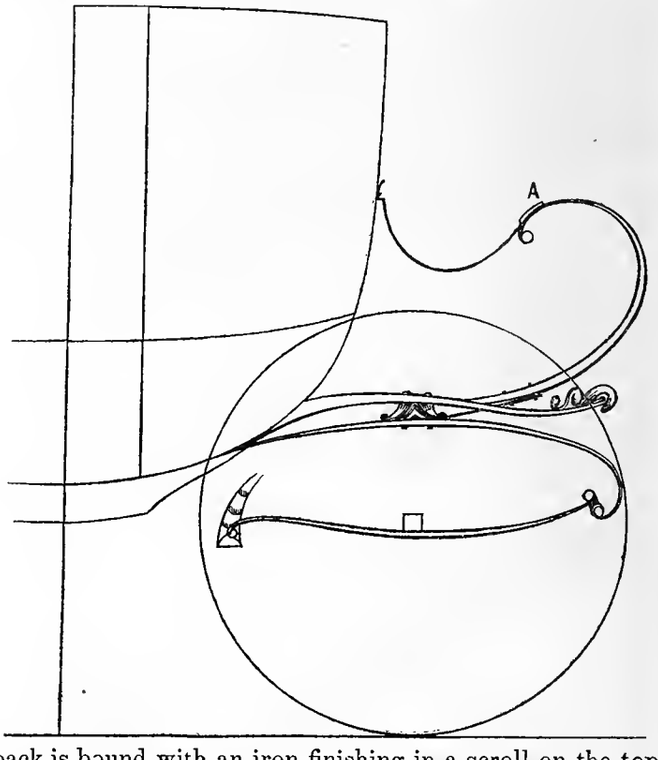
THE latest excitement is in relation to the velocipede now engaging much public attention. We have before stated in these pages, that they were becoming formidable rivals to horses, and we now learn that it is in contemplation by the French to employ them in delivering letters in the towns. We find from our exchanges, that, as usual, some *enterprising* inventors in our midst are at work in securing patents on the velocipede; but for the life of us, we cannot see from a comparison of the drawings, wherein these differ from the French, sufficient to entitle them to a patent. That our readers may judge for themselves in this matter, by comparisons, we present them with the latest French design, lately received at this office. We give both a side and end view, that it may the better be understood as to its operations.

The machine itself consists of two wheels only, kept in an upright position by the momentum imparted to it by the passenger's feet, the crank for which purpose is shown on one side of the end view, the corresponding crank being omitted. A sort of saddle is fixed on the string-piece connecting the wheels together, on which the rider sits, and in his progress turns in any direction at will by means of a crank placed immediately over the front wheel. The Messrs. Wood Bros., of this city, have just imported a velocipede from Paris, at a cost of $115; and we understand that it is their intention to manufacture them for this market.

Sparks from the Anvil.

MOCK C-SPRINGS.—A NEW IDEA.

ONE of the latest novelties about carriage-making is the mock C-spring which may be applied to ordinary carriages with brakes so as to give them an aristocratic finish, being only put on to deceive the eye. These are not very costly as they are made of bent wood, nicely tapered, and beaded so as to imitate the real steel spring. The



back is bound with an iron finishing in a scroll on the top end of the spring like the drawing at A. From this point an iron stay extends to and is attached to the body. The iron is afterwards covered with patent leather, so as to give it the imitation of a check-strap in the real form. When nicely finished, the job has a very pleasing effect and to the superficial observer looks like the real article.

SHAFT COUPLINGS.

Any one who will take the pains to look over the weekly list of Patent Office records will find them largely made up of "thill couplings," which, in the language of the craft, means shaft couplings. "Thill" is an old name for shaft, and is used by the Patent officials to distinguish the article from the couplings used in general machinery.

It is now about ten years since the Miner, Stevens & Saunders coupling came into use, during which period some two hundred and fifty patents have been issued from the Patent Office at Washington, to even enumerate which would require more space than we can devote to the subject. Some of these are valuable, but much the larger proportion are of little worth, and will never be heard of beyond the inventors' own doors.

The "thill coupling" came into use on an urgent call from the public for something that would be more lasting than the old fashioned "jack," and it is wonderful to think how many brains were exercised in producing the article, which, had they been directed in another channel, under the guidance of ingenuity, might have culminated in something useful; but which now only serve as lumber to fill the cases of the national edifice appropriated to such purposes. Much the larger number of these couplings were invented by non-mechanics,— very few of them by practical carriage-makers,— and this will account in some measure for the "Love's Labor" which has been worse than wasted upon them. Let these worthless things rest in their closets, where they have been appropriately consigned; but there are a few deserving of notice, and would be favorites, did the proprietors take a little more pains and properly advertise them. Allow us, then, (modestly!) to suggest that inventors should, if they wish to profit from their labors, avail themselves of our columns, and let the craft know the worth of their couplings before some other genius steps in and outstrips them in energy. Whether you believe it or not, we can assure you that adertising pays.

VARNISH FOR IRON WORK.

It is said that an excellent varnish for iron work may be made by distilling gas tar until all the volatile products are got rid of. The distillation is then stopped, and the residual pitch is dissolved either in the heavier oils, or, if a very quick drying varnish is required, in light oils or naphtha. This varnish is, of course, the original tar minus the ammonia, water, carbolic acid, and other things which give it its disagreeable odor and make it so long in drying.

BLACKSMITHS' COAL.

The Publisher of this Magazine takes this opportunity to inform his city subscribers, that with special reference to their wants, he has laid in a stock of coal from the celebrated Barton Colliery, which he will deliver in any part of the city at the market price. This coal we warrant as being superior to any other Cumberland mined, from experience in its use. Orders sent to us, 208 Lexington avenue, will receive immediate attention, and will, we believe, give full satisfaction.

Paint Room.

TESTING VARNISHES.

There is so much cheating going on in varnishes that no one ought to buy the article without a knowledge of the manufacturer and his responsibilities. To experiment in this article is expensive business—too expensive to pay in the carriage-making line. For this reason it is much the better way to purchase of old reliable houses that have by a long and honorable course gained an enviable reputation. Never, above all things, buy of the traveling agents of Jewish houses, with names as hard as their wares, let the article be ever so cheap, unless you find a pleasure in being cheated. With these remarks, which we have deemed necessary to prefix to this article, we proceed to give some directions whereby a good may be distinguished from a poor varnish.

Some test the article by tasting; but this is so nice a business that much practice is required to be able to detect the quantity of rosin added by the manufacturer. Others judge by the color, which requires a very nice eye; or by spreading two or three coats on a board and exposing it to sun and storm. This last is evidently the best, but requires more time than ordinary carriage painters are willing to devote to it. Perhaps the most certain test is to take a little between the finger and thumb. Should it be drawn out without creating a noise, it is good; should a crackling noise attend the process it is pretty certain proof that there is too much rosin in it, and consequently when it is put on carriage bodies, will soon crack. Care should be taken to use the pure *gum*-made article if you would avoid trouble and loss afterward.

MAKING WHITE LEAD.

Several experiments have of late years been made for the purpose of producing white lead in a shorter time, and consequently much cheaper than by the old Holland slow process. None of them, however, have resulted in much success, if we except that of M. A. Girard, a Frenchman. By his process metallic lead is in the first place granulated, after which the product is placed in a barrel (which must be made of beech, horn-beam wood, not oak) with one-fourth its weight of pure water. This barrel, which is made to rotate on an axis at the rate of thirty or forty revolutions in a minute, has a current of air forced through it during the operation. After rotating some two hours, almost all the lead will become oxydized. Next a current of carbonic acid gas is substituted for the air, and the rotation is afterwards continued for four or five hours longer until nearly all the lead is converted into hydrated carbonate, the true white lead, which can be separated by decantation from any of the metal unacted upon, after which it is washed and dried. White lead made after this process is believed to be as good as after the old one.

POISONLESS GREEN PIGMENT.

All the greens hitherto in use among painters have been of a more or less poisonous nature, and consequently detrimental to health. This fact has led to experiments among chemists in order to obtain this beautiful color free

from the objections brought against it when produced from arsenic and copper as heretofore. "They naturally," says the London *Mechanics' Magazine*, "turned their attention to chromium, and several compounds of this metal have been patented, the best known and most brilliant of which is the borate, known as "Voit de Guignet." The inventor starts with a solution of any salt of chromium, which he boils with appropriate reagents to obtain the green modification; to this he adds either gelatinous alumina, or recently precipitated hydrated oxyd, carbonate or sulphide of zinc, in just sufficient quantity to saturate the acid. The reaction takes place quickly, but may be accelerated by heat. The precipitate has only to be washed and dried, and is ready for use. The color is said to be cheap, inasmuch as any chromium salt or residue may be employed in making it. Moreover, it is perfectly harmless, covers well, and has a brilliant shade. The inventor calls it "Imperial Green."

ORIGINAL MONOGRAM.

Illustrated on Plate XXIII.

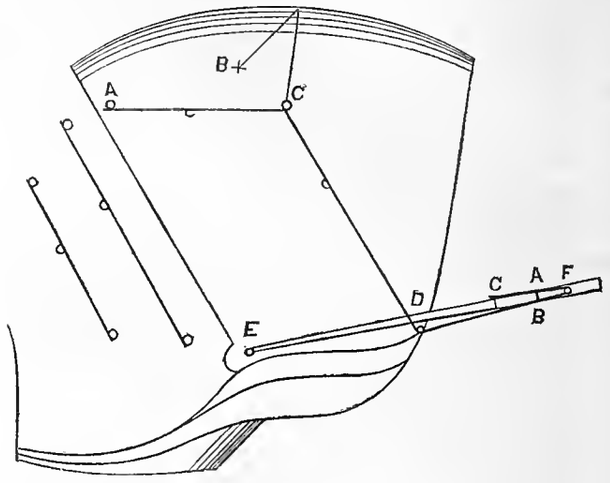
In accordance with the announcement made last month, we present our readers with another original monogram from the pencil of our friend, Mr. J. S. Leggett, which will be found very useful as a study for the young beginner in the art of combination, if nothing more. We would repeat our former notice, and say, that we have made arrangements with Mr. Leggett for the combination of such letters of the alphabet as correspondents may require, at the rate of $1,00 each,—for example, a monogram of three initials will be $3,00. The monogram, with a little practice, could very readily be transferred to the panel by the painter afterwards. Send on your orders.

Trimming Room.

DRAFTING TOP JOINTS.

After so much has appeared in your Magazine respecting the drafting of top joints, Mr. Editor, I feel that some apology is due for trespassing on your readers with a few further observations on the subject, and the more so, on account of my long continued silence, caused, in part, by my connection with an association which some persons suppose is antagonistical to the employers' interests, but I am now in possession of some few leisure moments, and, having resumed the pen and pencil, I propose on this occasion to canvass the two illustrations you have published on top joints.

My attention was drawn to this subject in the August and September numbers of your Magazine. Speaking plainly, I must say the plan in the August number is very objectionable for several reasons, one of which is that it injures the looks of the top, and would be detrimental to the sale of the vehicle in the wareroom. Besides this, there are very few trimmers, upon that plan being adopted on their jobs, but would utter curses "both loud and deep;" at least I never saw one but what did, when I saw that plan in use many years since. The sketch in the September number by "Observer" is much better; but I have an objection to that, as it will not be a correct method on different shaped bodies: for instance, take "Observer's" draft and you will find the body prop-iron, is some four or five inches lower than the finger-iron. Then again, take a crooked body such as the accompanying draft, or any other with more sweep, where the body prop-iron is, say, four or five inches higher than the finger-iron, and you will find a difficulty in making the props lay or range with the bow or top. But without further remarks I will explain the accompanying draft: —



TAKING THE LENGTH OF JOINTS.

Commence to lay out your joints by taking a straight edge and marking on it the lengths of the joints, which mark on a board, giving about one-fourth of an inch draft in the length; then place one end of the straight edge to the centre of the finger-iron E, marking on the edge at A, which carry to B, and mark on the top, for a four bow top four inches, for a five bow five inches, in front of the middle prop-iron; then move the straight edge to C, and mark on the edge the point of the middle prop; then place the straight edge down on the body prop-iron, as seen in the draft, taking a waxed thread the length of the back prop, placing one end on the centre of the body prop-iron D, and the other on C (corresponding on the straight edge with the middle prop), drawing it back and ranging with straight edge and mark where the string is doubled. This gives you the point of the knuckle F. The upper or front point of knuckle is obtained in the same manner as by "Observer's" plan, with the exception that the string must range with the back quarter. The plan of the straight edge never fails to have the joints range with the top when the top has fallen, be the body prop-irons higher or lower than the finger-irons; it is also much easier accomplished and more correct than either of the former plans, in my opinion.

John B. Peek.

Editor's Work-bench.

VELOCIPEDE EXCITEMENT.

In another part of this volume we have given a drawing of the velocipede, copied from a French design. This, a cotemporary tells us, is simply a new name for the same thing invented some fifty years ago, then called "a dandy horse" by Englishmen, as it would seem to have been a

favorite among the dandies of that period. The only difference between the ancient and modern article appears to be, the old one lacked the pin on the front wheel by which it can be kept in motion when once fairly started, and was propelled by the feet upon the ground. After a good speed had been attained, the feet were temporarily rested upon small projections at the ends of the front axle, until the machine required further force of propulsion, when they were again put in requisition. These velocipedes, after having been patronized by such notables as Fox, Sheridan, Pitt and others, went out of fashion, about forty years ago.

Its revival in France has brought with it renewed interest, and the improvement made upon the original, is very likely to impart to this interest lengthened popularity. Our own land, which, we are sorry to say, gets the larger proportion of its fashions from Europe, is just now agitated and excited to a fever heat in regard to this singular *horse-carriage*, and we should not be at all surprised to find these novelties supplanting many of the turn-outs of the present fashionable drives, and besides in a measure monopolizing the side-walks of our already crowded thoroughfares. Only a few evenings since we saw one going down Broadway at lightning speed, dodging around among the pedestrians, with evident danger to life and limb.

Much skill is required in managing a velocipede with only two wheels, one following in the track of the other, and to a superficial observer altogether inexplicable. When, however, we take into consideration the law of moving bodies, and their tendency to continue in the direction of the impulse which set them in operation, the whole matter is solved. The experiment is beautifully illustrated by a wheel, which, propelled by the hand on the hub, is familiar to all coach-makers.

A writer in the *Scientific American* says: "All France is crazy on the subject of velocipedes, and clubs are forming in every town and city. Velocipede races are more of an every day occurrence than horse races, and the mannfacturers cannot supply half the demand. Those sold are of two descriptions. In the one, the person is seated in a kind of chair, and works two pedals by the feet, and a lever with the right hand. The other, a favorite description, consists of two wheels coupled together by an iron brace which serves for a seat. The forward wheel has projections for the feet, and the motion is obtained by a rolling movement of the leg. These last are tiresome, require some practice to learn, and a very nice balance not to fall over."

Several inventors in this country have set themselves to work in making improvements on the velocipede, and these are making their appearance in our midst. Only the other day, T. R. Pickering, of this city, exhibited one in the City Hall Park, of his own manufacture, mounted on which he rode several times back and forth in front of the Hall, at a high speed, the machine being under the most complete control. This machine had only two wheels, one following in the track of the other, with a tire only three-quarters of an inch wide. The ease with which it was kept upright, showed great skill in the rider. The Hanlon Brothers have lately patented a machine something after the same pattern, and not much varied from the French, given in this number.

We close our remarks with an extract from a Parisian correspondence of the *American Artisan*, which cannot fail to interest our readers at the present time:

"Velocipedes are made with two, three, and four wheels [in Paris]. As to the speed, there has been as yet no decision as to which is the best; it depends upon the man, or, I should say, the legs. The general opinion I find to be as follows:— For short distances and speed, the two-wheel Velocipedes; for long distances and speed, the three-wheeledones; for longer distances, with comfort and speed, the four-wheeled: that is to say, the two-wheeled are the most fatiguing, requiring great effort to keep erect, and have been considerably condemned by physicians; and therefore in long rides (between men of equal strength and practice) the three-wheeled generally win. While it is equally true that in the longest races the four-wheeled are the winners. The two-wheeled velocipedes have to be made so much stronger, to stand the twisting and hard usage that they are full as heavy as the three-wheeled ones, which latter are made lighter, as they do not have that twisting or hard use. It is said the bank porters and postmen, etc., are to be mounted on the three-wheeled kind. But I think before it can be done, the "velomania" will die out. The two-wheeled and three-wheeled kinds weigh about alike, 50 or 60 lbs.....

"I must mention a race which recently created considerable amusement, and on which a few or more "sous" changed hands between two rival agents or sellers of velocipedes. The first race was for speed: the first prize was 1,000 francs for the first man that passed the starting point, after going twice around the course without touching the ground with his foot or "heading to the rear;" the second and third prizes of less amounts, for the second and third best men. The race was between six Americans and six Frenchmen; all kinds of velocipedes were admitted, but those used were almost all two-wheeled, and two wheels won. The Americans won all the prizes. You may not understand the expression, "heading to the rear." If anything happens to nearly tip a man over, and consequently let his feet touch the ground, he loses the race. He could frequently avoid touching the ground by making a very quick turn around in a short circle until he finds time to gradually right himself again, but it is quick work. (I can't do it quick enough yet.) Still, it is not considered fair, and not allowed in races. You must make no circles; you may go as crooked (snake-like) as you please, but never turn around or "face to the rear." Well, now for the fun in the races. The Americans having won the first race, were challenged again by the "All-comers," as they were called,— in fact, the most skilled men to be found, against the same six Americans,— prizes the same as before, race once around the same course, but

this time for the last man that passed the starting point. Conditions the same as before. This was a new kind of race, and much money changed hands. Little was said before the race, but great were the expectations. I heard one fellow say, "he guessed he knew his biz." The race was won as before by the Americans, through the novel expedient of "taking it easy" almost entirely around the course, and then suddenly (by a knack they had just learned) catching the foot-cam on the center and suddenly reversing the driving wheel, causing them to go back again without "facing to the rear," when they would as suddenly go ahead again the same as they did before; and by repeating the same process, they could have occupied a week in passing the starting point if necessary, or until the "All-comers" had all passed or touched a foot to the ground. That was real fun for the Americans. The "All-comers," however, are "up to snuff now," and are again looking after something new to beat the Americans; but Frenchmen must get up early and *dejeuner* before eleven o'clock to beat us."

A BIG TEMPEST IN A LITTLE TEAPOT.

OUR agrarian cotemporary on the Delaware has lately had an attack of brain-fever, judging from the tenor of certain articles we find devoted to us in a late number of the ex-organ. He thinks we are "a jealous rival," and charges that we "prostitute the Magazine to the basest of purposes," and that we engage in divers other naughty tricks of which editors should not be guilty. As our own pages are the best exponents of our conduct, we shall not waste ink and paper in following our opponent through his idiosincricities, in order to show the fallacy of his charges, or even to prove the purity of our motives in the opposition we have given to trade combinations—believing as we do sincerely that they are but "premiums upon incapacity," benefiting none but worthless mechanics—but shall instead devote the limited space we have to bestow upon such "small game," in noticing some of the "naughty tricks" our waspish neighbor is charged with by Union men at the time when he was the active champion of more than sixty Coach-makers' International Unions throughout the country, and carried the bag from which the funds were supplied in trying to break up the business of such as were independent enough to think themselves capable of managing their own affairs in their own way.

Those who are acquainted with the course of the publication under consideration know that it was established solely to advocate trades union principles in the interest of International Unionism, and as such was pronounced a great help to the cause. To outsiders everything seemed to go on very smoothly. Unions were springing up in every city and town, to the dismay of bosses and the exultation of jours, when suddenly, one day, "the organ" stopped grinding, and the Unions were left in the lurch—*organless*. Nobody outside of the "subordinates" could tell what was the matter, and perhaps few know to this day. They will now learn for the first time that somebody had managed to run the concern nearly three thousand dollars in debt, and when called upon "to give an account of his stewardship" failed to do so satisfactorily, and having the inside track, started the machine off on another journey, ostensibly for the benefit of employers and employed, but solely for his own benefit, leaving the Unions to settle old accounts, should they ever be paid. We are credibly informed that so much incensed are some of the Union members against the author of their troubles that they pronounce him anything but a gentleman; all which he will probably say "is nothing more than hearsay." Well, be it so; but we are credulous enough to believe that "where there is so much smoke there must be some fire."

Our cotemporary consoles himself with the reflection, that if "*we* are in your way, *you* are not in ours," a very cheap and convenient way of disposing of the matter, to which we offer no objection, since our own circulation now exceeds that of any other time since his came into existence, and besides we have good and substantial reason for believing that our course meets with the hearty approbation of every right-minded man in the trade, both boss and jour; but whether popular or not we shall continue to speak our honest convictions as long as it pays, and our other business engagements permit us to do so, regardless of censure.

REVIEW OF TRADE.

ALTHOUGH there has been a large business transacted in the dry goods, and many other important branches of trade, that of carriage-making in this city, particularly, has been extremely dull. Why this should be so we are unable fully to explain, unless it be caused by political excitement in regard to the next Presidential election. Our friends and customers have nearly all returned from their summer recreations, and consequently the reason that "everybody is out of town" will no longer avail as an explanation, nor will it do to say money is scarce when it can be had readily on call, in Wall Street, for from 5@7 per cent.—we do not wish to be understood as advocating buying carriages with borrowed money—showing that times cannot be called hard in the commonly accepted sense of the word.

As intimated some months ago, the loss of our Southern trade, since the close of hostilities between the Northern and Southern sections of the country, has had a serious effect on the carriage business. It is true we might be much better off without such trade, were it not that a certain class of persons allow themselves to indulge in a sort of hankering after it, because it gave them steady employment in the fall, and an opportunity to

work up second hand stock in former times, and which they hope will again occur. These—almost solely on this account—keep up a constant complaining, which being infectious in some sections of the country, is caught up, to the general dissatisfaction of many others besides. When our fellow-craftsmen look more after home trade, and by a laudable effort seek to produce a better class of work, we shall expect to find our fall business, as well as the spring, much more healthy and lively. As matters now stand, this business is understood only by a select few, and these few alone monopolize the entire *cream* of the trade in both city and country.

We notice that there is a disposition in a few individuals to advertise their *wares* as offered twenty-five per cent. below ordinary prices, which, to say the least of, looks suspicious. In such cases, the public will do well to observe the old Latin caution, *caveat emptor*, and act accordingly. No one will (except in critical cases) sell for less than cost, and our knowledge of carriage-making compels us to say, that in no instance of legitimate trade does its profits ever reach that percentage.

Last winter we had a number of foreign-made Landaus, coupés, &c., imported into this country, and offered by American houses to American customers. Some of these are still on sale, and are likely to remain so, notwithstanding their cheapness, as but few customers among us have a fancy for articles, which in artistic beauty are far inferior to those of the same kind made in this country. This reflection on transatlantic workmanship will doubtless cause a smile on the faces of our foreign readers; but could they see by contrast the superiority in design exhibited by our productions, they would, we think, if candid, acknowledge the justice of our claims. At any rate, we can assure them, that at present it will not pay to send foreign carriages to America, under our present tariff, and the sooner this is understood the better for all interested.

MISCELLANEOUS NOTES OF THE MONTH PAST.

We learn from a Canadian paper, that at the Provincial Exhibition, held at Hamilton, in September, that "the show of wagons was confined to two, and a spring wagon," and that "the buggies and carriages were not numerous, but very good." . . . It is said that many English gentlemen living in the suburbs of London, disgusted with the extortions of the railway companies, have purchased velocipedes and declare their independence of steam. . . . The Polish hackdrivers in Warsaw, not long since, were ordered to adopt the Russian costume, and did so, but forgot to use Russian whips, and consequently were all arrested and fined. . . . Not satisfied with the rate of speed attained by velocipedes, the French have invented a locomotive with four wheels, which is reported to be safer, swifter and less fatiguing to the rider than any road vehicle known. . . . Queen Victoria is this year in the Highlands of Scotland, with John Brown in her suite, conspicuous as formerly in his Highland costume. She has her own horses and carriages from London, and drives about the lakes and hills like any other lady out for a holiday. . . . Messrs. Brewster & Co. have in their repository a quantity of robes imported from England, which they offer for $60 each. . . . John Jenness, of Craftsbury, has in his possession a pair of oak cart wheels made during the Revolutionary war, still quite sound and capable of service. . . . Three American railway carriages weigh only one ton more than the English make, and will seat seventy-two more passengers, and are more durable. . . . There were no horses found here when the country was discovered, yet sixteen kinds have been found in the fossil state. . . . Rev. Wm. Morley Punshon, in his lecture at the Academy of Music, October 8th, told his audience that "it was better to be *poor and honest* than to ride up Broadway in a carriage cushioned and emblazoned with coats of arms, bought with the hard earnings of others, and drawn by horses harnessed through meanness and dishonest trickery. Better be anything than a dastard." . . . Mr. F. D. Kennedy, of Albany, N. Y., sends us a diagram and explanation of his "Union Sleigh Heater," intended to add to the comfort of sleigh riders, a patent for which has been applied for. . . . Horses are selling in Gipp's Land, Australia, for tenpence apiece, or seven for five shillings. . . . An English carriage-builder advertises in *The Lancet*, "earriages of the greatest ease and comfort ever invented for the removal of invalids, being fitted with the patent noiseless wheels; and let on moderate terms for any journey."

TRADE NEWS OF THE MONTH.

A leading member of one of the trade union organizations (the bricklayers') of New York city, absconded with several hundred dollars of its funds, and is supposed to have gone to Canada. . . . The bricklayers' strike still continues, with what success may be inferred from the fact that about one-eighth are working on the eight-hour plan, and that another eighth are idle, living upon the contributions of other unions. . . . The order of United American Mechanics had a grand parade in Lancaster, Pa., on the 17th of September. "The procession was fifty minutes in passing a given point. Many of the councils illustrated the respective trades by workshops elevated on wheels, with men at work. The printing press, shipbuilding, coopering, blacksmithing, boiler making, and building, and others were represented.

The wagons upon which these were mounted were decorated with flags, wreaths and flowers, and drawn by sturdy Conestoga horses." . . . The Journeymen Masons' Association of Newark, N. J., having adopted a resolution that no employer should have more than two apprentices, the bosses have demurred, and brought the matter before the grand jury for settlement. . . . . A telegram from Antwerp, Europe, tells us that the working men are opposed to strikes on principle and in practice, and say they are useless as a means of increasing wages, or reducing the hours of labor, and that they produce riots, violence, injury to the bodies and pockets of the working people. A sensible conclusion. . . . The working men of Brussels contend that in strikes the employers often succeed; laborers very seldom: which truth it would be well to ponder this side the ocean, before such questionable business is undertaken.

Patent Journal.

AMERICAN INVENTIONS.

JULY 28. (80,389) WHIP-SOCKET.—Charles Christian, Sheboygan, Wis.: I claim a whip-holder, constructed with the socket B, in connection with the springs D, substantially as and for the purpose described.

(80,489) WAGON.—George W. Janvrin, Great Falls, N. H.: I claim, *First*, A wagon so constructed and arranged as that the body of the same may be raised and lowered at option, by means of screws attached to and forming part of the wagon, when the said screws are acted upon by attachments to the carrying-wheels, substantially as described. *Second*, In combination with wagons, the wheel-bevels, with their corresponding bevel-wheels, when constructed and arranged substantially as shown and described. *Third*, The device shown, of the shipper-slides and their appended forks, in combination with the upper and lower bevel-wheels, J and K, and the wheel-bevels, in connection with the body of a wagon, when constructed substantially as described. *Fourth*, The shipper-bar clutches shown, when arranged in combination with the notched plates, the shipper-slides, and the body of a wagon, substantially as above described. *Fifth*, When in combination with wagons supported by more than two wheels, the tip-cart arrangement of two or more cross-bars, U Ux, and the pivoted bottom, when constructed substantially as described.

Aug. 4. (80,551) WHIFFLE-TREE.—J. W. Kelley, Cleveland, Ohio: I claim the dove-tailed groove-plate C, in combination with the dove-tailed ribbed plate F, in the manner as and for the purpose set forth.

(80,562) SPRING-SEAT FOR WAGONS.—Henry H. Palmer, Rockford, Ill.: I claim seat A, bottom B, braces C, and straps E, in combination with the spring D, when arranged to operate substantially in the manner herein described.

(80,594) SKEIN-SETTER FOR AXLE.—John Burt, Sturgis, Mich.: I claim, *First*, The employment of the slide *h* in crank D, for adjusting the arm, substantially as and for the purpose specified. *Second*, The ways *g g*, when pivoted at both ends substantially as set forth, for the purpose of accomodating them to the set of the arm. *Third*, Providing the crank, D, with rocking-box *a*, and attaching screw-shaft *b* thereto, substantially as described. *Fourth*, Finally, wheel B, constructed substantially as set forth, in combination with hinged or pivoted ways *g g*, screw-shaft *b*, knife-block E, divided nut *e*, and crank D, for the purpose described.

(80,626) THILL-COUPLING.—Isaac C. Hart, Galesburg, Ill.: I claim the plate H and hook L, constructed and arranged as described, and combined with the axle A, clip P, and tongue or thills J, substantially as described, and for the purpose set forth.

(80,662) CARRIAGE-CURTAIN FASTENER.—Henry E. Pond, Franklin, Mass.: I claim the improved device before described, for fastening the curtains of wheeled vehicles, consisting of the two perforated plates, *a* and *b*, riveted to opposite sides of the curtain, as represented, and with the outer one provided with a locking-bolt, for locking into the stud *d*, the whole being in manner and to operate as before described.

(80,669) DUMPING CART AND WAGON. William W. Rogers, Hampden Corner, Me.: I claim, *First*, The combination of the spring-bolts G, cords or chains H, and pulleys I, with the hinged tail-board E, stakes J, and body D, of the cart or wagon, substantially as herein shown and described, and for the purpose set forth. *Second*, The combination of the brace-rods K and cross-bar L with the stakes J and shafts C, substantially as herein shown and described, and for the purpose set forth.

(80,670) CARRIAGE-TOP. J. F. Sargent, North Turnbridge, Vt.: I claim the pivoted interior rod D, in combination with the double-jointed tubular shaft C, slotted near its centre, sliding ferrule I, grooved or notched ring-flange H, disk E, braces G, and curved radial ribs F, all constructed and operating as described for the purpose specified.

(80,684) WAGON-BRAKE.—Washington H. Tucker, Sunman, Ind.: I claim the blocks E, rods F and P, straps K and N, sheave O, rods L M, spring H, and lever J, all constructed and arranged substantially as and for the purpose set forth.

(80,687) TIRE-COOLER.—John Wampach, Shakopee, Minn.: I claim the combination of the connecting-rods E, lever D, connecting-rod G, and lever F, with each other, with the box B, beams C, and frame A, arranged substantially as herein shown and described, and for the purpose set forth.

(80,690) THILL-COUPLING.—Hironimus Will, Columbus City, Iowa: I claim a shaft-coupling, having pieces A and B, clutch D, and spring E, constructed, combined, arranged and operating substantially as specified.

(80,726) MACHINE FOR MAKING WHEELS.—Harrison Haag, Bernville, assignor to himself and George W. Yager, Reading, Pa.: I claim, *First*, A disk J, adjustable, as described, on a standard I, and carrying a tool *k*, to which both a longitudinal and a rotary motion may be imparted for the purpose set forth. *Second*, The cross-head G, with its arms *v v* and screw-rods H and *x*, sliding on the vertical standards F F′, so that when in an elevated position it will serve to retain a hub, and when depressed will hold a felloe, all as and for the purpose specified.

(80,758) ROLLER-WAGON SKEIN.—John W. Morrett and Hiram Watts, Shepherdstown, Pa.: We claim the rectangular metallic bar *a*, embedded in the axle *h*, and curving at *x*, in an arc along the axle-tree *g*, and fastened thereto by the screw *f*, the rollers *d* and *e* resting their axles in the ends of the trapezoidal blocks *b* and *c*, which slide and are adjusted in the trapezoidal gutter in the skein, all constructed and operating in the manner and for the purpose herein set forth.

(80,759) SHAFT-COUPLING FOR WAGON.—Ichabod H. Mulford, Orange, N. J.: I claim, *First*, The arrangement and combination of the set-screw E, passing through the clip *a* and axle-bed B, with the rubber carrying-plate *e*, substantially as shown and described. *Second*, The rubber supporting-plate *e*, or its equivalent, in combination with the hook-shaped jaws A, when so applied as to be capable of removal for detachment of the thill or whiffle-tree without detachment of screws or nuts, substantially as set forth. *Third*, A thill or whiffle-tree coupling, so constructed that by the operation of a set-screw alone, on an intermediate block, the thills may be secured to the axle or detached therefrom, substantially as shown and described.

(67,196, dated April 28, 1862; reissue 3,067) CHECK-BRACE FOR CARRIAGE.—Isaac D. Johnson, M. D., Kennett Square, Pa.: I claim, *First*, The brackets F F′, located upon the perch, sub-

stantially as and for the purpose described. *Second*, The brackets H H′, secured to the elliptic springs C C′, substantially as and for the purpose described. *Third*, The combination of the brackets F F′ and the brackets H H′ with the connecting plate-springs G G′, when arranged and operating substantially as and for the purpose described. *Fourth*, The combination of the brackets F on the perch, the brackets H on the springs, the plate-springs G, and the elliptic springs, whereby the torsion of the springs and the undue oscillation of the body are prevented. *Fifth*, The combination, with the body of the vehicle, of the shackle *e*, the spring C, the brackets F H, and the plate-spring G, whereby the spring is braced from the center, substantially as described. *Sixth*, The combination, with the body of the vehicle, of the shackles, springs, brackets, and connecting plate-springs, substantially as and for the purpose set forth.

11. (80,823) Dumping-Cart.—Rufus Ham, and Joseph Durgin, Bangor, Me.: We claim the spindle-headed post E and the plate or circle F, in combination with the rocker H and the trundles I, I′, and I″, constructed and operating substantially in the manner and for the purposes as shown and described.

(80,827) Wagon-Seat.—Israel Kinney, Detroit, Mich., assignor to Edward McGivern and John Webber, Hamilton, Canada: I claim the ribs or lugs E, when constructed and connected as herein set forth.

(80,837, antedated July 25, 1868) Hub-Boring Machine.—A. R. Silver, Salem, Ohio, assignor to himself and John Derning, same place: I claim, *First*, The combination of the radially-grooved chuck-plate, sliding griping-jaws J, adjusting-screws H′, pinions H, and center spur-wheel G, substantially in the manner and for the purpose described. *Second*, The sections *h h* of the feed-nut, fitted in slotted bed *g′*, applied to a turning-box or cap D, and constructed with a neck *g*, substantially as described. *Third*, The combination of the expansible nut *h*, bed *g′*, neck *e*, set-screw *e′*, and stock E, substantially as described. *Fourth*, The construction of the gauge-plate C, with an oblong opening, *d*, through it, one side of which is screw-cut to fit the mandrel, and the other side is provided with an adjustable screw-cut gib C, and a set-screw *c′*, substantially in the manner and for the purposes described.

(80,845) Carriage-Prop Joint.—Elbertson W. Waite, New Haven, Conn.: I claim the carriage-prop, made with the link *c* attached by the pins *d d* to the bars *a* and *b*, in the manner and for the purposes specified.

(80,848) Apparatus for Setting Axle of Wheel.—Samuel Woodhull, Linden, Mich.: I claim the arms K, in an axle-gauge, constructed as herein described and shown.

(80,973) Wagon-Lock.—Francis A. Kingston, Mendon, Ill.: I claim a brake for wagons, adapted for operation by an operator on a high load, and having lever G, block H, ratcket K, staple S, and posts O O, constructed, arranged, and operating substantially as specified.

(17,520, dated June 9, 1857; reissue 3,079) Carriage-Wheel.—James D. Sarven, Columbia, Tenn.: I claim, *First*, A carriage-wheel, constructed with a wooden hub, in which the spokes are arranged at the said hub so as to have a bearing-surface or support between each other, so as to form a continuous body or band around the said hub, substantially in the manner and for the purpose set forth. *Second*, A carriage-wheel, in which the hub is constructed by combining a wood center and a metallic band or bands, flange or flanges, arranged so that the said metallic band or flange forms an additional bearing or support for the spokes, when the bands or flanges upon the opposite sides of the spoke are connected together through or between the spokes, to unite the two flanges, and form, as it were, one metallic band, through which the spokes pass.

18. (81,079) Axle.—John Elmire, Martic Township, Pa.: I claim the arrangement of a stout bed-plate, A, in combination with the prolonged shouldered bearings B B, inserted through the bed-plates A, and secured by a nut on a screw-end, in the manner shown, when combined with a cylindrical roller C, and inserted in the manner and for the purpose specified.

(81,085) Thill-Coupling.—Samuel E. Horner, Shiloh, N. J.: I claim the clip A, thill D, snap-hook E, and the gum block F, when combined as shown and described.

(81,092) Attaching Pole-Straps to Neck-Yokes.—Nathaniel Irish, Rochester, Minn.: I claim the pole-straps C C and metallic loops B B, when constructed, arranged, and used substantially in the manner set forth.

(81,115) Carriage-Axle Coupling.—George F. Smith Plantsville, Conn.: I claim the combination of the bed-plate *c* with clips *a a* joined to it, so as to embrace the axle at its middle. Also, the bed-plate *c*, the king-bolt E, and the middle clips *a a*, as joined together in one piece. Also, the arrangement of the ends of the bed-plate within the clips *d d* of each pair of the sweep-clips, when such bed-plate, the middle clips, and the king-bolt are joined together in one piece, as set forth. Also, the king-bolt, its cylindrical cup-base, the bed-plate, and middle clips, as joined together and applied to the axle, as set forth.

(81,127) Wagon-Hub.—Edwin R. Baker, Fairhaven, assignor to himself and John R. Linton, New Bedford, Mass.: I claim, *First*, The metallic hub, cast in two hollow parts, with the part B cast upon the box D, both parts being fitted together as described, to clasp the ends of the spokes C between them, as set forth. *Second*, The metallic hub, when its hollow shell B is cast upon and with the box D, as herein described for the purpose specified.

(81,135) Carriage-Top.—Nelson G. Burr, Homer, N. Y.: I claim supporting the top of a carriage with a single bow or pair of standards, substantially as described. And in combination with a single bow supporting the top of the carriage, the stands to which the bow is pivoted, so as to be raised or lowered. Hanging the single bow or pair of standards which support the top of the carriage on pivots, so that it may be raised or lowered as desired. Extending the ends of the bow beyond the pivots on which it swings, to serve as a means of locking the bow below the pivot when the top is raised, substantially as described. The spring-catches for locking the bow or standards of the top in position when it is raised. And in combination with the spring-catches K K, the lever or handle and the link Q, which connects the catches so as to release them both at once by moving the lever or handle P. In combination with the single bow supporting the top, the bars I I and ribs J, which support the covering, substantially as described.

(81,150) Fastener for Vehicle-Seat.—Charles Dixon, Weedsport, N. Y.: I claim the cam or eccentric D, lever E, lever-hook F, and ears C, constructed and combined with each other, substantially as herein shown and described, and for the purpose set forth.

(81,175) Carriage-Wheel.—George Kenny, Nashua, N. H.: I claim, *First*, The metallic flanged ring or casing B, provided with sockets E E, and screw-threads on the inside of its inner end, when used in combination with the spokes C C, which are provided with a tenon on their ends, fitting into the mortises on the hub A, and its shoulders resting on the outside periphery of the hub, substantially as and for the purposes herein set forth. *Second*, Uniting the spoke and felloe by tenon, when said tenon consists of two members, H H′, substantially as described and for the purpose set forth.

(81,193) Stump-Joint for Carriages.—F. B. Morse, New Haven, Conn.: I claim a stump-joint, consisting of the two parts A and B, hinged together by a connection, C, pivoted to each of the parts, forming the meeting-ends of the joint, of irregular form, the one corresponding to the other, so as to operate substantially in the manner specified.

(81,216) Wagon.—Samuel Seitz and L. D. Arnold, Melmore, Ohio: We claim, *First*, The springs F, in combination with the side boards C, and end boards E, substantially as shown and described, and for the purpose set forth. *Second*, Securing the end boards E to the side boards C, by means of the springs F, catches G, projections *d′* of the cleats D, and the notches or recesses *e′* formed in the said end board E, substantially as herein shown and described, and for the purpose set forth.

CURRENT PRICES FOR CARRIAGE MATERIALS.

CORRECTED MONTHLY FOR THE NEW YORK COACH-MAKER'S MAGAZINE.

New York, Oct. 18, 1868.

Apron hooks and rings, per gross, $1.25 *a* $1.75.
Axle-clips, according to length, per dozen, 50c. to 80c.
Axles, common (long stock), per lb, 84c.
Axles, plain taper, 1 in. and under, $5.50; 1⅛, $6.50; 1¼, $7.50; 1⅜, $9.50; 1½, $10.50.
Do. Swelled taper, 1 in. and under, $7.00; 1⅛, $7.50; 1¼, $8.75; 1⅜, $10.75; 1½, $13.00.
Do. Half pat., 1 in. $10; 1⅛, $11; 1¼, $13; 1⅜, $15.50; 1½, $18.50.
Do. do. Homogeneous steel, ⅝ in., $11.00; ¾, $11; ⅞, $12.00; long drafts, $2.50 extra.

☞ These are prices for first-class axles. Inferior class sold from $1 to $3 less.

Bands, plated rim, 3 in., $1.75; 3 in., $2, larger sizes proportionate.
Do. Mail patent, $3.00 *a* $5.00.
Do. galvanized, 3½ in. and under, $1; larger, $1 *a* $2.
Bent poles, each $1.00 to $1.50.
Do. rims, extra hickory, $2.75 to $3.50.
Do. seat rails, 50c. each, or $5.50 per doz.
Do. shafts, $6 to $9 per bundle of 6 pairs.
Bolts, Philadelphia, list. 20 off.
Do. T, per 100, $3 *a* $3.50.
Bows, per set, light, $1.00; heavy, $2.00.
Buckles, per grs. ½ in., $1, ⅝, $1.12; ¾, $1.25; ⅞, $1 75; 1, $2.00.
Buckram, per yard, 18 *a* 23c.
Burlap, per yard, 14 *a* 16c.
Buttons, japanned, per paper, 20c.; per large gross, $2.25.
Carriage-parts, buggy, carved, $4.50 *a* $6.
Carpets, Brussels, $1.75 *a* $2; velvet, $2.75 *a* $4; oil-cloth, 45 *a* 70c.
Castings, malleable iron, per lb, 16c.
Clip-kingbolts, each, 40c., or $4.50 per dozen.
Cloths, body, $3.50 *a* $5; lining, $2.50 *a* $3. (See *Enameled.*)

☞ A Union cloth, made expressly for carriages, and warranted not to fade, can be furnished for $2.50 per yard.

Cord, seaming, per lb, 35c.; netting, per yard, 8c.
Cotelines, per yard, $4 *a* $8.
Curtain frames, per dozen, $1.25 *a* $2.50.
Do. rollers, each, $1.50.
Damask, German cotton, double width, per piece, $15 *a* $22.
Dashes, buggy, $1.75.
Door-handles, stiff, $1 *a* $3; coach drop, per pair, $3 *a* $4.
Drugget, felt, $1.75 *a* $2.
Enameled cloth, muslin, 5-4, 40c.; 6-4, 75c.
Enameled Drills, 48 in., 55c.; 5-4, 50c.
Do. Ducks, 50 in., 75c.; 5–4, 70c.; 6–4, 80c.

☞ No quotations for other enameled goods.

Felloe plates, wrought, per lb., all sizes, 20c.
Felloes (Rims), $1.50 *a* $3.
Fifth-wheels, wrought, $1.50 *a* $2.00.
Fringes, festoon, per piece, $2; narrow, per yard, 18c.

☞ For a buggy-top two pieces are required, and sometimes three.

Do. silk bullion, per yard, 50c. *a* $1.
Do. worsted bullion, 4 in., 35c.
Do. worsted carpet, per yard, 8c. *a* 15c.
Frogs, 50c. *a* $1 per pair.
Glue, per lb, 25c. *a* 30c.
Hair, picked, per lb, 40c. to 65c.
Hubs, light, mortised, $1.20; unmortised, $1. Coach, mortised, $2.
Japan, per gal., $2.
Knobs, English, $1.40 *a* $1.50 per gross.
Laces, broad, silk, per yard, 60 *a* $1.25; narrow, 10c. to 16c.
Do. broad, worsted, per yard, 40c. *a* 50c.
Lamps, coach, $10 *a* $30 per pair.
Lazy backs, $9 per doz.
Leather, collar, dash, 29c.; split do., 15c. *a* 17c.; No. 1, top, 29c.; No, 2, enameled top, 27c.; enameled trimming, 27c.; harness, per lb., 50c.; flap, per foot, 25c.
Moss, per bale, 8c. *a* 15c.
Mouldings, plated, per foot, ¼ in. 14c.; ⅜, 16c. *a* 20c.; ½, lead, door, per piece, 40c.
Nails, lining, silver, per paper, 7c.; ivory, per gross, 50c.
Name-plates. (See Advertisement.)
Oils, boiled, per gal., $1.25.
Paints. White lead, extra, $14.00, pure, $15.00 per 100 lbs.; Eng. pat. black, 30c.
Poles, $1.25 *a* $2 each,
Pole-crabs, silver, $5 *a* $12; tips, $1.25 *a* $1.50.
Pole-eyes, (S) No. 1, $2.25; No. 2, $2.40; No. 3, $2.65; No. 4, $4.50 per pr.
Sand paper, per ream, under Nos. 2½ and under, $4.50.
Screws, gimlet, manufacturer's 30 per cent. off printed lists.
Do. ivory headed, per dozen, 50c. per gross, $5.50.
Scrims (for canvassing), 16c. *a* 22c.
Seats (carriage) $2 *a* $2.75 each.
Seat-rails, 75c. per doz.
Seat-risers, Linton's Patent, $2 per pair.
Seats, buggy, pieced rails, $1.75; solid rails, $2.50.
Shafts, $12 to $18 per doz.
Shaft-jacks (M. S. & S.'s), No. 1, $2.40; 2, $2.60; 3, $3.00.
Shaft-jacks, common, $1 *a* $1.35 per pair.
Do. tips, extra plated, per pair, 25c. *a* 50c.
Silk, curtain, per yard, $2 *a* $3.50.
Slat-irons, wrought, 4 bow, 75c. *a* 90c.; 5 bow, $1.00 per set.
Slides, ivory, white and black, per doz., $12; bone, per doz., $1.50 *a* $2.25; No. 18, $2.75 per doz.
Speaking tubes, each, $10.
Spindles, seat, per 100, $1.50 *a* $2.50.
Spring-bars, carved, per pair, $1.75.
Springs, black, 16c.; bright, 18c.; English (tempered), 21c.; Swedes (tempered), 26c.; 1¼ in., 1c. per lb. extra.
If under 34 in., 2c. per lb. additional.

☞ Two springs for a buggy weigh about 28 lbs. If both 4 plate, 34 to 40 lbs.

Spokes (Best Elizabethport), buggy, ⅞, 1 and 1⅛ in. 9½c. each; 1⅛ and 1¼ in. 9c. each; 1½ in. 10c. each. 10 off cash.

☞ For extra hickory the charges are 10c. *a* 12½c. each.

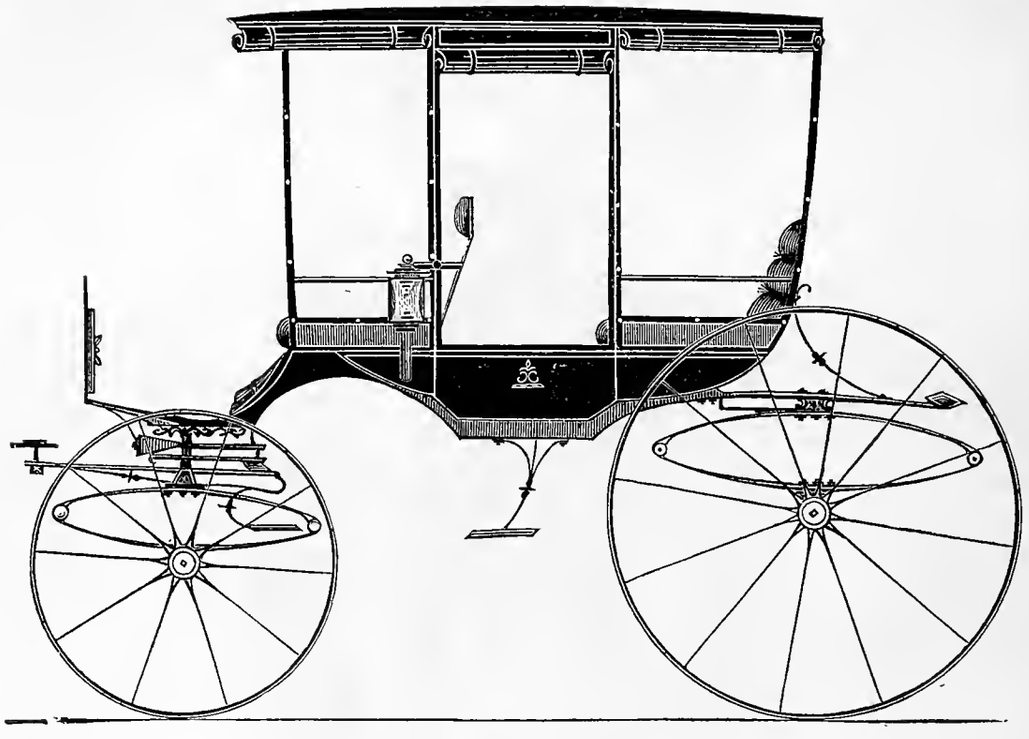
Steel, Farist Steel Co.'s Homogeneous Tire (net prices); 1 x 3–16, and 1 x 1-4, 20 cts.; 7-8 x 1-8 and 7-8 x 3-16, 23 cts.; 3-4 x 1-8, 25 cts.; 3-4 x 1-16, 28 cts.
Steel Tire—best Bessemer—net prices: 1-4 x 1 1-8, 15c.; 1-4 x 1, 15c.; 3-16 x 1 1-8, 16c.; 3-16 x 1, 16c.; 3-16 x 7-8, 17c.; 3-16 x 3-4, 17; 1-8 x 7-8, 20; 1-8 x 34; 1-16 x. 3-4, 23.
Stump-joints, per dozen, $1.40 *a* $2.
Tacks, 7c. and upwards.
Tassels, holder, per pair, $1 *a* $2; inside, per dozen, $5 *a* $12; acorn trigger, per dozen, $2.25.
Thread, linen, No. 25, $1.75; 30, $1.85; 35, $1.80.
Do. stitching, No. 10, $1.00; 3, $1.20; 12, $1.35, gold.
Do. Marshall's Machine, 432, $3.25; 532, $3.75; 632, $4, gold.
Top props, Thos. Pat, wrought, per set 80c.; capped complete, $1.50.
Do. common, per set, 40c. Do. close plated nuts and rivets, 75*a*80c.
Tufts, common flat, worsted, per gross, 15c.
Do. heavy black corded, worsted, per gross, $1.
Do. do. do. silk, per gross, $2.c. Do. ball, $1.
Turned collars, $1.25 *a* $3 per doz.
Turpentine, pr gl., 65c
Twine, tufting, pr ball, 50c.; per lb, 85 *a* $1.
Varnishes (Amer.), crown coach-body, $5.00; nonpareil, $5.25.
Do. English, $6.25 in gold, or equivalent in currency.
Webbing, per piece, 65c.; per gross of 4 pieces, $2.40.
Wheels, $12 to 22.
Whiffle-trees, coach, turned, each, 50c.; per dozen, $4.50.
Whiffle-tree spring hooks, $4.50 per doz.
Whip-sockets, flexible rubber, $4.50 *a* $6 per dozen; hard rubber, $9 to $10 per doz.; leather imitation English, $5 per doz. common American, $3.50 *a* $4 per doz.
Window lifter plates, per dozen, $1.50.
Yokes, pole, 50c.; per doz, $5.50.
Yoke-tips, ext. plated, $1.50 pair.

TO READERS AND CORRESPONDENTS.

J. R. of Cal.—The only charts we can now supply are 5 and 6, both desirable for the office. The price is $1 each, or $1.75 for a copy of each.

L. S. of N. Y.—We have now a full supply of leaflets. Have sent you a specimen by mail. Prices will be made known when I know your order.

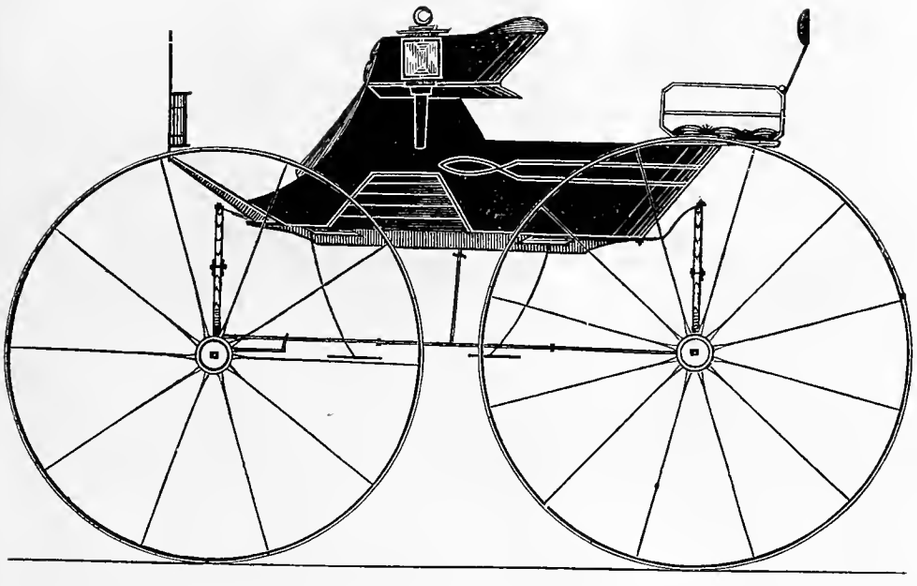
W. L. of Pa.—We can furnish you with the Dole Boxing Mashine of all sizes.



FOUR-SEAT ROCKAWAY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 103.



TURN-OVER SEAT PHAETON.—½ IN. SCALE.

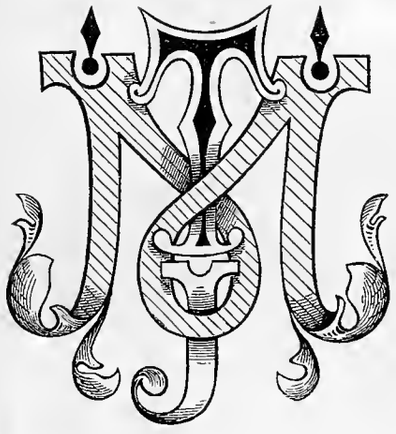
Designed expressly for the New York Coach-maker's Magazine.

Explained on page 103.

PHYSICIAN'S PHAETON—½ IN. SCALE.

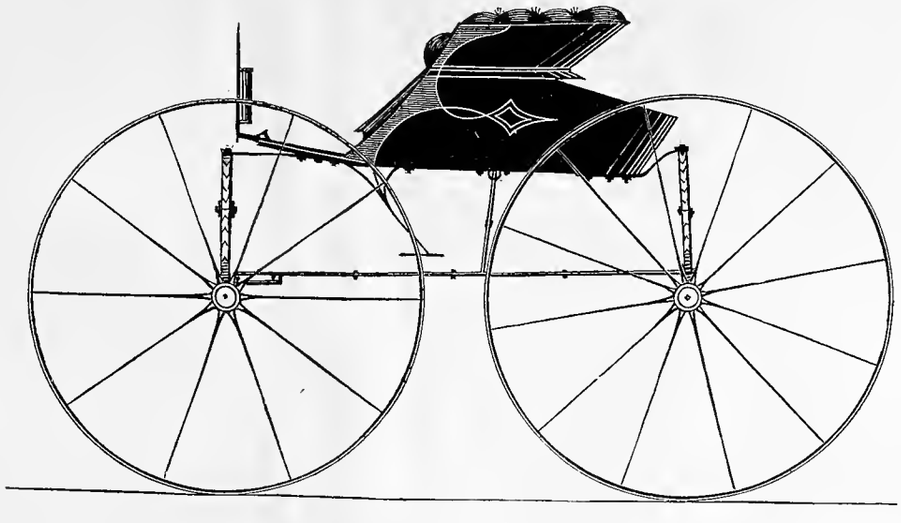
Designed expressly for the New York Coach-maker's Magazine.

Explained on page 103.



T. J. M.—ORIGINAL MONOGRAM.

See remarks on page 105



ROAD BUGGY.—½ IN. SCALE.

Engraved expressly for the New York Coach-maker's Magazine.

Explained on page 103.

THE NEW YORK
FREEMASON'S MONTHLY MAGAZINE

DEVOTED TO THE LITERARY, SOCIAL, AND MECHANICAL INTERESTS OF THE CRAFT.

Vol. X. NEW YORK, DECEMBER, 1868. No. 7.

Mechanical Literature.

A PLEA FOR CABBY.*

A PARTIAL insurrection, which our French or our Prussian neighbors would have harshly and summarily dealt with, has been suffered to bleed itself to death in the streets of London. It has bled, happily, from no wounds but those inflicted on the pocket. Those belligerents are happy who staunch such wounds before they become fatal. The cab proprietors of London having, or pretending to have, a grievance against the railway companies, caused their drivers to strike against the public. In order to compel the railway mangers to admit to their station yards, on equal terms, those vehicles the owners of which were willing to give certain guarantees, and those not so recommended to the public, the cab owning interest had the wit to persuade their servants to refuse, in defiance of the law, to serve the general public. The ill-designed strategy had the result inseparable from ignorance of the laws of war. The aggressors had to beat a retreat, and this was happily effected before any great amount of ill-feeling had been developed on either side. With the public, then, the victory remains, and, as far as the specific cause of complaint, and the means chosen to enforce it, rightly so. But it not unfrequently happens, in social disturbances, that the immediate occasion of an outbreak is not its real cause. That may long have been smouldering beneath the surface, ready to burst forth on the slightest opportunity. Let us ask ourselves whether such may not have been the case in the present instance. The railway companies may be altogether justified in their treatment of public vehicles. Are the general mass of the inhabitants of London equally in the right? The point to which we refer, and which specially belongs to our columns, is that of the shelter afforded to public vehicles in London.

Shelter indeed there is none. A wealthy and luxurious people, proud of their humanity, supporting by voluntary subscriptions a society to prevent cruelty to animals; a people specially addicted to the breeding, the riding, and the driving of the horse, is content to leave all the animals which carry on the public internal communication of the metropolis without any recognized provision for shelter or for feeding-place.

That cab-horses have stables somewhere, and that their drivers may sometimes (perhaps on Sundays) retire to some other bed than that which is extemporized from the interior of their vehicle, we take, indeed, for granted, that which we leave to private enterprise. Perhaps we are right in so doing. To take us through the street, whether with the easy speed of a hansom, or at the deliberate grind of a four-wheeler, it is essential that the horse should have been fed, and groomed, and rested somewhere or other, within a day or two, and though we allow feeding, and that waiting which is a substitute for rest, to be carried on in the very midst of our most crowded thoroughfares, we have not yet come to see much grooming on the stands.

Evidently, therefore, there must be cab-stables somewhere, but *where* is known to none but their occupiers. In all weather, and in all seasons, by day and by night—in summer with a temperature of 90° degrees in the shade, in winter with the ground covered with snow and the thermometer below zero—the horses and the drivers, on whom and on which we all depend when time is an object, are left unsheltered and uncared for. Their normal shelter is the sky. Is this as it should be? Is it fair to a large body of hard-working, industrious, careful men? We expect very much of the London cab driver, and not only so, but we obtain very much from him—very much more than we did ten years ago. Civility is now the rule; formerly, it was the exception; knowledge of the town, care and speed in driving, cleanliness of vehicle, and we may say, of the person, we demand without stint. It may often happen to a person not over familiar with town to ask direction from a policeman, and to discover, after a bout of that amusing fence in which the natives of the Emerald Isle so much delight, that he is seeking guidance of an Irish recruit, who knows less of London than himself.

But how rarely do we find the cabmen at fault; and when he is, how patiently he follows up the scent. What is his pace, and what his care at crossings and corners, when you can only catch the express train by making for the station at some ten miles an hour? In all frequented streets of the metropolis, for at least twenty hours out of the twenty-four, we expect, by lifting up the finger and vociferating "Hi!" to be accommodated with a carriage

*From the *London Builder*, for Sept. 19th, 1868, p. 687.

driven by a man who can tell us where we want to go when we do not exactly know ourselves. Now, it is a great hardship that no public shelter is provided for these hard-working public servants. What we say of the men will apply with even more force to the horses, for the horses are unable to pop inside for an occasional nap. Their food is given by the painful and unsatisfactory appliance of the nose bag. Their protection, after an hour or two of rapid driving, is a rack that enables them at leisure to fill their bellies with the east wind.

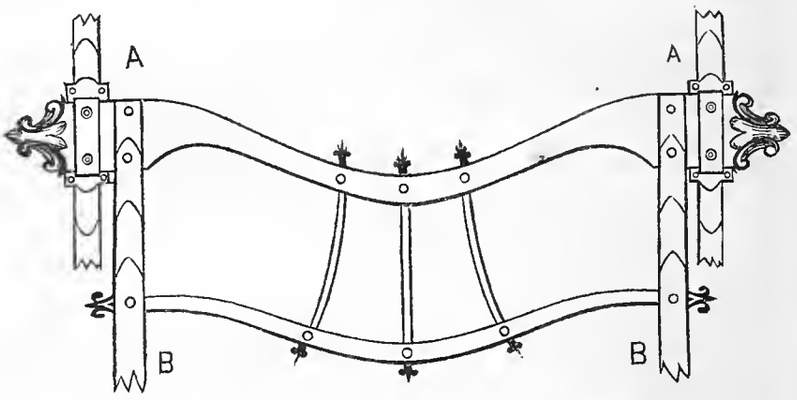
No valuable horse can be exposed to the unsheltered vicissitude of a cab without almost the certainty of disease. In all this lies a great and unnecessary waste—a cost to the owner which the public, in one form or another, must ultimately defray. To demand the constant attendance of thousands of horses, and to make no provision whatever for their protection from the weather, is a disgrace to our civilization. Who should provide the shelter? it may be asked. Our reply is that we are indicating a want, but not promoting a speculation. Some coöperation should be brought to bear on the matter. Public shelter, protected sheds, in which the tired horses could feed, and rest till their time came to leave the rack ought to be provided at public expense. If this were done, it would no doubt admirably pay to attach stables and mows to the public sheds. If an association of the cab owners were formed, or any arrangements were made by which a horse that had set down his last fare at Paddington should not have to be driven to Islington or to Southwick to pass the night, the economy of labor would be its own reward. The lodgings of the drivers themselves is another matter for consideration, and the men would, of course, wish to regain their own homes. But when we remember the hours which they keep, the distance which they are forced to drive empty handed, and the constant exposure incident to their vocation, as well as to that to which they are unnecessarily exposed, we cannot snppose that the drivers, as a body, would not rejoice at any step in the direction of organizing their protection from needless toil.

Let us heap a few coals, then, on cabby's head. Let us tell him, and not in print only, but in brick and mortar, that we are better friends to him than he is to himself. "You have been out of temper, my good fellow," let us say; small blame to you for being a little vexed at times. You have had a good deal to put up with. You have been hardly used. But you have made an ass of yourself notwithstanding. It is not the railway managers of whom you should complain, but the Lord Mayor, Aldermen and Burgesses of London, the vestrymen of Marylebone, of Southwark, of St. James, the municipal authorities, in fact, who neglect you. Call another indignation meeting, and direct your resolutions against the fact of utter want of shelter for so large a body of the servants of the public. Ask for shelter for man and beast—for yourselves and for your cattle. Tell your great employer, the public, that it was but natural you should have made that earnest though ill-considered effort to take shelter under a roof of any kind.

Even draughty stations are preferable to the open street. Put your shoulder to this wheel, and call on the humane, the benevolent, the prudeut, for aid. Enforce the view that the reform of street vehicles depends on some other shelter being provided for them than the center of the street. Stick to this, worthy friend, and when one, or five, or twenty years hence, you rest quietly for your turn in a clean, light, airy, sheltered stand, thank us for the hint, and remember "the *Builder's* Plea for the Cabmen."

COMBINATION SPRINGS AND BARS.

IN the annexed illustration our readers have a diagram showing the combination bars of a hind platform undercarriage, in connection with combination springs. Ours is a birds-eye view, showing the mechanical arrangement



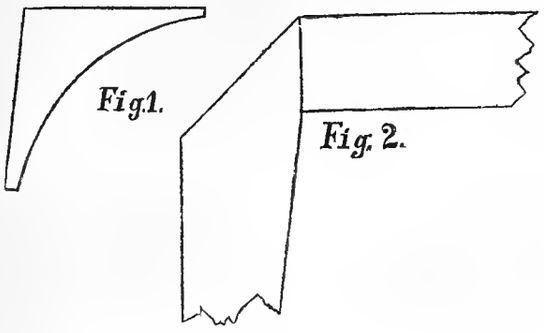
COMBINATION SPRINGS AND BARS.

of the wood work, with sections of the springs; AA being the eliptical, and BB sections of the C springs. It would be an easy matter to add dimensions, but these are so varied in every carriage built that it is much better to leave this to the practical workman, who is expected to exercise his own judgment, in making it either heavier or lighter according to the weight of the carriage to be built.

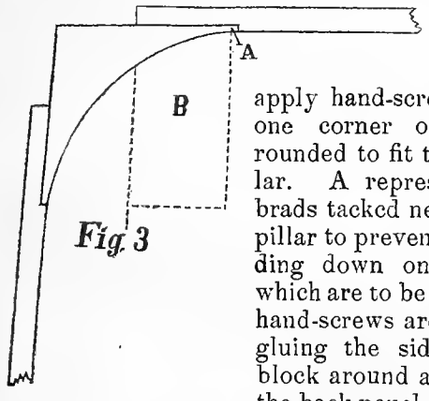
RULE TO BE OBSERVED IN BODY FRAMING.

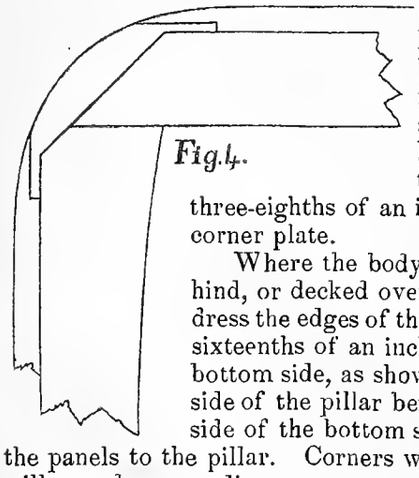
MR. EDITOR: In writing an article for your Magazine a while ago, concerning the principles of body framing, I took the liberty to criticise an article in a Philadelphia magazine, showing the manner of laying out and making a concave coal-box body. I find that my criticism has been noticed by the writer of the above mentioned article, and he proceeds to urge objections to my manner of constructing a round corner, without knowing what that is, as I did not then pretend to give the mode of construction, but only the principle, which is that the corner pillar, or block, should not butt on to the top of the bottom-side, but should be halved on to it, so that the grain of the panel should cross the joint. I will now give my mode of constructing a round corner, and it will be seen that the objections mentioned by said writer prove to be no objections at all.

After framing the bottom-side and end bars, I give the outside of the bottom-side and back bar the required bevel, then glue and screw them solidly together. When dry, trim off the projecting ends of bottom-side and bar, and then set your bevel across the corner, and get the correct bevel to dress the corner pillar by. After dressing the two outsides, hollow out the inside, leaving the two edges three-sixteenths of an inch thick. You will then have a pillar of which Fig. 1, represents a cross section. When making several bodies, the best way is to take pieces of

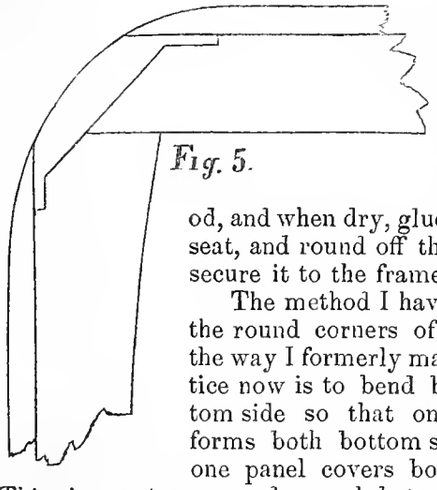


considerable length and dress them before sawing them off. In sawing off, cut at the right angle, so that the bottom end of the pillar, when halved to the bottom side, will be on a plane with the bottom of the bottom side. The right angle can be obtained by applying the bevel to the corner of the bottom-side. Having sawed the bottom ends of the pillars at the right angle, cut off the corner of the bottom-side, as represented in Fig. 2. Now with a long tooth gauge, gauge the inside of the pillar from the bottom end according to the thickness of the bottom-side, and fit the pillar to the bottom side as represented in Fig. 4, the outside of the pillar being three-sixteenths outside of the bottom-side, and lapping around the corners; but do not round the out corner until the panels are glued on. After gluing and securing the pillar to the bottom side, halve the panels to the pillar, as represented by Fig. 3. The dotted lines, B, represent a block on the inside, on which to apply hand-screws when gluing—one corner of the block being rounded to fit the inside of the pillar. A represents two or three brads tacked near the edge of the pillar to prevent the block from sliding down on to the panel but which are to be withdrawn when the hand-screws are taken off. After gluing the side panels, turn the block around and use it in gluing the back panel. When dry, round off the corner as represented in Fig. 4, which shows the joints on the bottom of the body. You will now have a corner with the inside lightened out, having been done beforehand in the vise, with knife and plane, and you have only to bring the top edge to about three-eighths of an inch, and screw on a corner plate.





Where the body is to be paneled behind, or decked over back of the seat, I dress the edges of the corner pillar to five-sixteenths of an inch, and let it into the bottom side, as shown in Fig. 5, the outside of the pillar being flush with the outside of the bottom side, but do not halve the panels to the pillar. Corners well made in this way, will stand any ordinary usage, and the joints will not show, even if they are not canvassed.



I make my corner pillars of seats in the same way, and glue them to the back of the seat by the same method, and when dry, glue on the ends of the seat, and round off the corner, and then secure it to the frame.

The method I have given for making the round corners of coal-box bodies is the way I formerly made them. My practice now is to bend both panel and bottom side so that one piece of timber forms both bottom sides and back, and one panel covers both sides and back. This gives a stronger and a much better shape to the body. It requires a very wide panel as the grain on the sides does not run parallel with the bottom-side, but runs diagonally across the side. I do not make the back circular, but about halfway between a circular and the old fashioned round corner, and when the body is hung up with Scharch's patent V-shaped hanging irons, it presents a neat and tasty job.

BODY-MAKER.

OUR PERSIAN CARRIAGE MUSEUM.—I.

CHEBEL-MINAR, or Persepolis, according to the Dabistan, a work compiled from ancient Geber fragments, was founded by Jemsheed, the sixth king of Persia, who was cotemporary with Zohawk, a tyrant of Assyria, and is supposed to be the Nimrod of Scripture.* Other authorities ascribe its organization to Darius Hystaspes, he being a Persian (B. C. 521). After the establishment of the empire by Cyrus, his descendants divided their residence between Babylon, Susa, and Ecbatana, the principal city of Media, of which he was before that simply a king. In the days of its prosperity, Persepolis was one of the wealthiest, as well as most august cities of the world.† After the battle of Arbela, when Alexander obtained a signal victory over the Persians, he marched his army into Persepolis, taking it by storm, and putting its inhabitants to death. During this visit, in a drunken frolic, at the solicitation of a courtezan, Alexander burned a great portion of the city, which, when he became sober, he regretted. Persepolis seems never to have recovered from this blow, but gradually to have fallen until a final blow was given to it by Sumeanah-a-Doulah, a vizier of the Caliph of Bagdad, then master of Persia, in A. D. 982.

As the Persian empire grew out of the ruins of Assyria, it is natural to suppose that its architecture and other art workmanship would partake somewhat after the Assyrian pattern.‡ Such Diodorus Siculus says was the case. If any doubt remained of the fact, it would be removed by the character of the bas-relief of which our engraving is a copy. This, among others, was found by Sir. R. K.

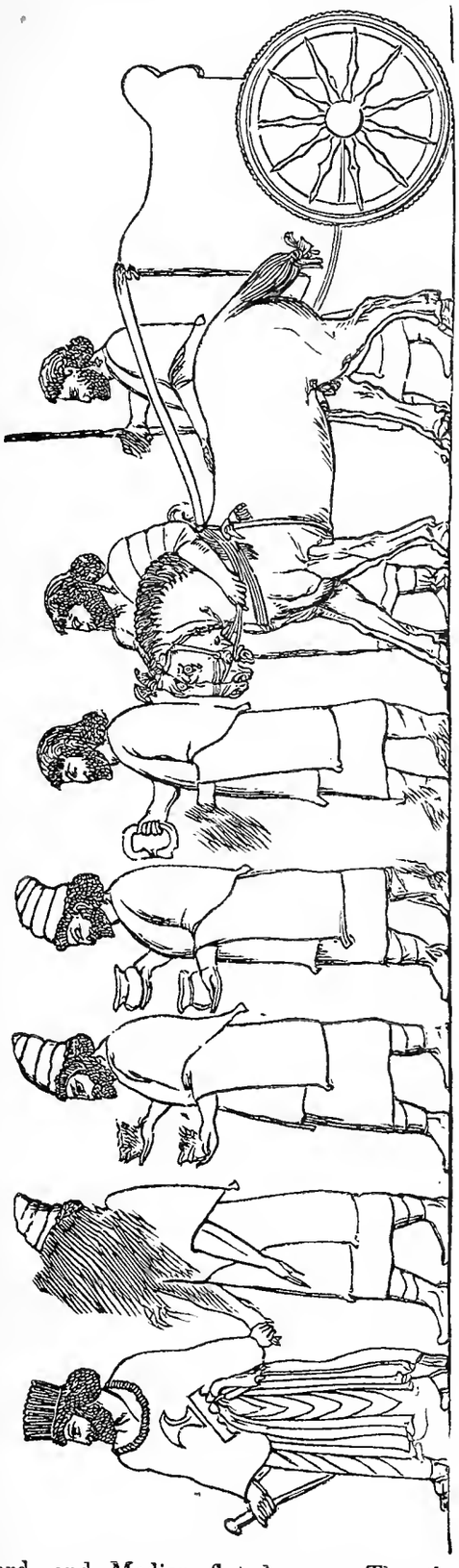
*See Sir Robert Kerr Porter's *Travels in Georgia, Persia, Armenia, Ancient Babylon, &c.*, 2 vols.: London, 1821 and 1822.

†See Diod Siculus.

‡On p. 79, Kerr Porter gives a drawing of a coin found among the ruins of Babylon, on the obverse of which is the representation of a chariot drawn by two horses, representing a similar vehicle to the one we have given, sculptured on the staircase of Chebel-Minar.

Porter, among the ruins of Persepolis, some years ago. We give his description:

"The conductor of the first group in this row is one of the robed Persians, with his short



BAS-RELIEF FROM THE STAIRCASE OF A RUIN FOUND AT PERSEPOLIS.

sword, and Median fluted cap. The three figures which immediately follow him wear pointed tiaras, seemingly formed of rolled linen and shaped like the descriptions we have of the priests' mitres. Neither the hair nor beads differ in any way from the common fashion of the times, except that behind the ear hangs a long single braid, terminated by two large beads. Their under-garments reach nearly to the ankle. Over them is a shorter vest; and a mantle with a deep cape, which falls loosely down the back, and over the naked arms; tassels are at each corner. Sock-like boots are on their feet. After the chief of the party, who is led as usual, follow the two other mitred persons carrying bowls in each hand. Then comes a third figure, in the the same dress as the foregoing, but without a cap of any kind; he bears a couple of immense bracelets in his hand, whose circular form is connected by the heads of serpents. The one on the right hand is perfect; but the other, in the left, can just be discerned as having been. The two remaining persons of the group are beside a large chariot, which is drawn by a magnificent pair of horses; one of the men, in ampler garments than his compeers, and bareheaded, holds the bridles of the horses. His companion in the rear, dressed more like the man with the bracelets, follows leaning his left hand on the backs of the animals and holding a long wand in the other. The horses are without trappings, but the details of their bits and the manner of reining them are executed with the utmost care. The pole of the car is seen passing behind the horses, projecting from the centre of the carriage, which is in a cylindrical shape, elevated rather above the line of the animals' heads. The wheel of the car is extremely light and tastefully put together. In fact the whole of this chariot group is portrayed and finished with a beauty and accuracy that alike excite our wonder and admiration."

This criticism needs some qualification. In the American sense of lightness, when applied to a carriage, the wheels of this Persepolitan chariot, although well "gotton up," would be pronounced clumsily constructed, especially the felloes. The horses, as shown in the drawing, very much resemble those seen in the Assyrian bas-reliefs, both in figure and dressing of the tails. The harness, however, is much less complex and is seemingly incomplete.

The next example (Fig.) is from Niebuhr, where it is described as a currus copied from a bas-relief found at Persepolis. The chariot in this instance is much better preserved and defined. The wheels show a different form of spoke, and like the former are roughly shod, as we have seen in Assyrian examples. The position of the conductor's arm around the necks of the horses in both cases, is worthy of notice, as showing the custom of ancient hostlers. It is difficult to determine in this intance whether the draught animals are either horses or mules, probably the latter. The chariot has the form of the more modern Roman triumphal car, of which it evidently is the original.

FIRST WAGON IN MERIDEN, MASS.—The first wagon was brought to Meriden in 1789, seventy-nine years ago. Mr. Ezra Rice was the importer and proprietor. The vehicle was rudely constructed, it being simply a square box placed on four wheels, drawn by two horses, with ropes for traces, and cords for the guiding or driving lines. Yet, in that early period the establishment was thought to be a very splendid turnout. Previous to that time, there had been owned in the town, in the line of vehicles, but three two-wheel carriages, all being very rude, awkward, unsightly chaise bodies, or uncovered seats hung on two wheels, in the manner of our modern doctor's phaeton.

Home Circle.

DECEMBER.

BY CARRIE M. WHITNEY.

Toiling up life's rugged way,
Step by step, and day by day,
Casting back a weary glance
Over time, and space, and chance,
Paused a traveler on the hill,
Lone and barren—sad and still.

'Twas an old man, bent and gray,
With hair whitening for decay,
And with chilly, windy breath
Freezing everything to death;
Paused there and with trembling hand
Scattered snow-wreaths o'er the land.

And he muttered to the wind
That came sobbing up behind
From the North-land, dark and drear,
At this dismal time of year—
Muttered, till in wailing shrieks,
He in winds exultant speaks.

"Where" said he, "are Summer's showers?
Where her fragrance and her flowers?
Where her warbling songsters, sweet?
Where the green shoes for her feet?
Where the dew gems for her hair?
Where her beauty—where, ah! where?

"*I* had power to blight her bloom,
I have hid her in the tomb,
I triumphant o'er her grave
Boldly my white banners wave,
While the winds she loved so well
Chant at night her funeral knell."

Ah! December, 'tis *too true*,
We have known thee, through and through,
And thy coming o'er the hills
With a dread our spirit thrills;
Hasten on with boast and blast,
Thy wild threat'nings cannot last!

There's a power above *thy* power,
Weakening it each fleeting hour,
There's a clime beyond the reach
Of *thy* want, and frost and screech;
Where eternal *Summer* reigns,
And *thy* feet no entrance gains.

South Adams, Mass.

HOW TWO SECEDERS CAME BACK INTO UNION—A STORY OF THE WAR.

BY MARY A. E. WAGER.

William Arles and Lauretta Day had been married ten years. William was twenty-one, and Lauretta nineteen years of age, when they took the oath of allegiance, vowing to love, honor, and cherish the other, until "death do part."

William married Lauretta because she wove her hair into pretty Spanish braids and had a waist like an inverted cone. Lauretta married William because he wore kid gloves to church, carried a dapper cane, and got down on his knees to her when he asked her to be his wife.

When the honeymoon began to wane, William learned that Spanish braids failed to atone for snappishness, and the heart that beat under Lauretta's bodice was but a pound of ordinary flesh after all.

And Lauretta learned that kid gloves failed to bring sunshine in the house; and if William had kneeled to her at one time, he was not likely to repeat the operation. So that scarce more than a year had elapsed when they had, what might be termed in military parlance, a drawn battle.

Lauretta's wrath passed off in that purely feminine conductor—a good cry; and William's passed off in a good smoke. After this, they recapitulated, and were as loving as two kittens for a week. Skirmishes, however, continued to occur in the order of permutation, so that where our story opens, they were served up as a daily fare.

But like a yard-stick there came an end to them, and began about a very small thing. As iron sharpeneth iron, so their frequent lingual attacks had sharpened and intensified their mode of warfare. Lauretta was dusting her kitchen, when William espying a pin on the floor, very amiably commented thereon:

"That's about the way you care for pins and needles, Mrs. Arles! You sow 'em around as if they cost nothing."

"*Yes*," retorted Lauretta, "I'll warrant you'll see every *pin* in creation. But you could'nt see the mud on your boots if it stuck on 'em thick as hair on a wolf. I scrub and scrub, and pick up and take down; but 'tis no use—you are everlastingly finding fault."

"And there's something everlastingly to find fault about," growled Arles: "I'd like to know what a woman's good for, if it isn't to take care of the house and what's in it? But all the most of 'em cares for, is to get bonnets and dresses, and hang on feathers and flummy-diddles like a Japan rooster; smirk and smile and make other people believe they are magnificently good, holding up their shallow pates like a giraffe. They seem to think a man is made of money, and don't care how hard he has to work to get it, provided she has all *she* wants to spend." William stopped to replenish, when Lauretta caught up the strain: "Well *I'd* like to know what a man is good for, if it isn't to *work*? The Lord must have thought so; for He commanded man to earn his bread by the sweat of his brow, and said nothing about *women* working. If women are such awful objects, I'd like to know what you wanted to marry one for? I suppose you do not remember how you got down on your knees to your darling (?) Lauretta, and besought her to marry you? Say, you don't remember *that* do you, Mr. Arles?"

"Yes, very well, madame; as it was the beginning of my woe," replied the caustic husband. "I imagined I was getting a woman as was a woman, and not one that acts as if she had been raised on buttered thunder. Women are very queer—can be a saint or a devil just as the fit takes 'em."

"They're no worse than men," interposed Lauretta. "I supposed I was getting a sweet tempered *husband;* but you're so cross the milk in the moon sours when it passes over you. I just wish I had never married you—*I do*—" and Lauretta began to cry a little.

"I reckon you don't wish it any more than *I* do," shouted William. "I can't come in the house and take a moment's peace. You are forever"—

"That's a *lie*, William Arles, and you know it," shrieked Lauretta.

"'*Tisn't* a *lie* either, Mrs. Arles."

"'Tis, too, every word of it. You *know* you *lied*."

"I didn't"—"you better be careful how you tell me I *lie*, Mrs. Arles."

"Well, you did *lie*—you did—boo-hoo," and Lauretta went into hysterics, and William went into the street.

There is not much consolation in enjoying hysteria alone, and so through the medium of a soliloquy Lauretta recovered.

"It's a dog's life I lead," she thought. "Oh! if I had only remained single. People talk about the bliss of matrimony, and the rest of having a husband's breast to lean on, and of growing up into a better and more symmetrical spiritual life! 'Tis all nonsense. I'd rather be a shriveled up old maid, hanging on Jupiter's horn through all eternity, and a thousand years after, than to be the wretch I am. I wish I were dead! dead! I suppose Arles would growl wofully if I should chance to die in these high-priced times." This and much more ran through Lauretta's heated brain, while her liege lord was stalking through the streets at the rear of a cigar.

We do not pretend to know what Mr. Arles thought. We do know, however, that he went into a recruiting office, and came out a United States volunteer. Arles was not a war man in a military sense—he dreaded ordinance as much as he did Lauretta's artillery. But he loved peace, and so he enlisted. He was no worse than hundreds of other men, in this respect. And in truth, the war did present a most admirable escapade for ill-mated Benedicts, who wished to secede from their domestic allegiance, and at the same time save their respectability.

When Arles returned home at night he sat very mum for a long time, with the back of his chair toward Lauretta, who wore a look of injured innocence. After a continued silence, Arles ventured to speak:

"I've some good news for you, Mrs. Arles."

Lauretta gave only a slight grunt at this.

"I've enlisted, Mrs. Arles," he at length added.

"Sensible," said Lauretta.

"Thunder!" exclaimed Arles.

"I hope you won't desert" said Lauretta.

Arles expected his enlistment would meet with a different reception, and was sorry. But Uncle Sam's embrace was stronger than Lauretta's hatred; so he marched away with his regiment. The neighbors came in to condole with Lauretta, and went away saying what a brave little woman was Mrs. Arles who yielded her husband so cheerfully to her country's need.

Those terrible July days came—hot, sultry, and deathly. There was booming of cannon that echoed a hundred miles away, and those who were familiar with the sound said "there is heavy fighting." Shot and shell fell like floods of fiery rain. There was the tramping of horses, the clashing of steel, the gaping wounds, the quivering lips, the death agony, and thousands of as brave men as ever strode a charger or kept pace to the drum, lay stark and cold upon the fields of Gettysburgh. In the list of the killed sent home was the name—William Arles.

Much as Lauretta believed she had disliked him, there was, after all, something of the old love living in her heart, and now that he was *dead*, his virtues shone out resplendently and she mourned him sincerely.

After she had arranged her affairs she went to Cincinnati to live with a relative. A few months later she saw and read this advertisement in the daily *Commercial*:

"CORRESPONDENCE WANTED."

"A soldier in the U. S. service would like to correspond with some lady, to relieve the weariness of camp life. The lady to be between twenty-five and thirty years of age. No objection to a widow if she be comely and sweet tempered. Should the correspondence prove agreeable, the gentleman may present himself as a candidate for matrimony.

"Address WILSON———Regt.———Corps,
"City Point, Va."

Lauretta read and re-read it until convinced that it was her duty to write to him. So she wrote, telling him of her husband, how happy their lives had been, and she believed she was sweet-tempered and comely, and signed herself Mrs. Alice.

It had been a long time since she had written much, so that her chirography looked odd and strange, and she would not have recognized it any sooner than she would that of her poor, dear William's. But after repeated copyings it was sent, and after the lapse of a fortnight an answer received. Wilson was delighted with her letter, he wrote. He too, had been bereaved in a most shocking manner. Although his domestic relations had not been of the most pleasant character, he believed there was much pleasure still in reserve for him. So the letter writing continued, each fancying love on the increase, until from cannon and belfry, and from mountain to sea, rang the shout of victory.

The regiment to which Wilson belonged was among the first to be mustered out, and preparations were made for a visit to Mrs. Alice. The eventful day came, and Lauretta had the Spanish braids in superb order. The train arrived early in the evening, but it was quite shadowy when a hack stopped before the door and a gentleman rang the bell. Lauretta stood near to hear the question put to the servant, "Does Mrs. Alice reside here?" She thought it was the richest and most musical voice she had ever heard. It must belong to her Wilson—and, springing toward him, she extended her hands, exclaiming, "I am Alice, your own Alice. My dear Wilson, come into the parlor, where I can see your dear face,"— and drawing him into the parlor she turned on the gas, and lo! the object of her carressing was only the hackman black as a coal scuttle!

"I, I'se 'stonished, miss," stammered out the darkey. "The gem'man in the coach sent me in to see if you resided heah. Shall I tell him you do, miss?" and the son of Africa advanced toward the door.

Lauretta sat as if transfixed by a thunderbolt. She never was an abolitionist. It was a hard way to be converted.

But it needs more than one blunder to silence a woman's tongue, and so, hastily explaining her mistake, she sent him out with a "yes" to the man in the coach—her soldier, her Wilson.

The next gentleman who asked if she were "Mrs. Alice," received an affirmative in a very meek tone. She had expended her enthusiasm on the coachman.

Lauretta led the way into the darkened parlor (for she had lowered the gas to hide her confusion) and allowed him to seat her near him on the sofa.

"I can assure you, my dear Alice," he began, "that after the tumult and roughness of war, that it is inexpress-

ibly sweet to enjoy this blissful communion," and he pressed her hand a little more closely.

"And I," replied Alice, "am as greatly pleased as yourself. You know it is so natural to wish to have those whom we love with us."

"Yes," said Wilson "and you must believe me when I say that I never before met a woman whose mind and heart impressed me so favorably. The touch of your hand thrills me with a happiness that is unspeakable. I am sure if I could see you plainly I should find your face beautiful,"— and he put two or three kisses upon it at the risk of disarranging the Spanish braids. "When I was lying so low with the terrible wound received at Gettysburg, I believe I should have died if it had not been for a sweet vision that charmed me to life by telling me I should yet be happy."

"And I," murmured Lauretta, "have felt that I should again find one to fill my poor dear husband's place. Indeed your voice reminds me so much of his — my poor, dear William's."

"And yours," said Wilson "reminds me so much of my wife, Lauretta."

"*Lauretta!* shrieked the fair widow, drawing away, and turning up the gas.

"By the holy St. Catharine," screamed the man, who was no other than William Arles. "A widow, comely and *sweet tempered!* Ha!"

Lauretta went into convulsions splendidly. Arles began chafing her hands, all the while muttering bad words, that began and ended with a delta. Finally she began to revive, and ejaculated faintly:

"I thought you were dead."

"And *I* thought *you* were in Massachusetts," said Arles.

"Then neither said anything. After a little, Lauretta smiled a little. Then Arles smiled a little. Then both said something about being "sold," and laughed until they cried.

"Well," said Arles, "I've spent considerable in one way and another in courting you over, and hadn't we better come back into union, Lauretta?"

"I never *did* really believe in *secession*," said Lauretta, "and I reckon we've had enough of it."

And so they began life anew, and when Lauretta shows signs of ill temper Arles asks for the whereabouts of that "sweet-tempered widow" she wrote about. And when Arles finds fault, Lauretta asks about the wife he lost in such a "shocking manner." So their mutual follies prove very serviceable in balancing their matrimonial scales.

Parisian Recklessness.—There is no city in the world where so many people are run over, and so little said about the matter as in Paris. This is simply owing to the French cabby being a reckless driver, and in most complete ignorance of his work. On one part of the Boulevards, the daily average number of persons knocked over is eight, and it is a favorite lounge for the *flaneur*, to wait for such accidents. This crossing is called the "Cross Roads of the Crushed," and has this week had a variety in the character of the offending vehicle. It was no less than a return hearse with four horses and waving plumes; the horses had taken fright, dashed furiously along, ran down a poor milliner, and smashed the hearse to atoms. The mourning coaches, that were following, soon came up, and conveyed away the *debris*.

Pen Illustrations of the Drafts.

FOUR-SEAT ROCKAWAY.

Illustrated on Plate XXV.

This is an original design from one of our special artists, intended for a very light rockaway, and will no doubt meet the wants of many of our country friends. The tinting at the ends of the seats, represents patent leather fillings-in, instead of pannel, which, although an old idea is still acted upon in many localities. This mode of finish has one serious drawback, the leather being subject to injury from the weather is not as readily restored to its original state as where the same is pannel, repainted. Wheels, 3 feet 1 inch and 4 feet 1 inch; hubs, $4\frac{1}{2}$ by 7 inches; spokes, $1\frac{1}{8}$ inches; rims, $1\frac{1}{4}$ inches deep; tire, steel, $\frac{7}{8}$ by $\frac{1}{4}$ of an inch.

TURN-OVER SEAT PHAETON.

Illustrated on Plate XXVI.

On this plate we present our patrons with a very compact and nice design for a two-seat phaeton, the hind seat to turn in when not in use. It has been furnished us by an artist in one of the largest establishments in this city, and combines in its construction all the most aristocratic features now given to our Park phaetons. Wheels, 4 feet and 4 feet 2 inches; hubs, 4 by $6\frac{1}{2}$ inches; 1 inch spoke; rims, $1\frac{1}{8}$ inches deep; tire $\frac{7}{8}$ by $\frac{5}{16}$ steel.

PHYSICIAN'S PHAETON.

Illustrated on Plate XXVII.

No one, we think, will question the originality of this design. Our artist has certainly produced something here decidedly novel and unique. The quarters may be either worked out from a whitewood plank, or framed and paneled. The valance might probably be dispensed with to advantage. This, however, is a matter of taste, to be decided by the builder. Most all physicians prefer a close to an open top, since they are exposed to all kinds of weather, a thing it would be well to bear in mind by those who are building without an order. In all cases trim with dark linings. Wheels, 3 feet 6 inches and 3 feet 9 inches; hubs, 7 by $4\frac{1}{2}$ inches; spokes, $1\frac{1}{4}$ inches; rims, $1\frac{1}{4}$ inches deep.

ROAD BUGGY.

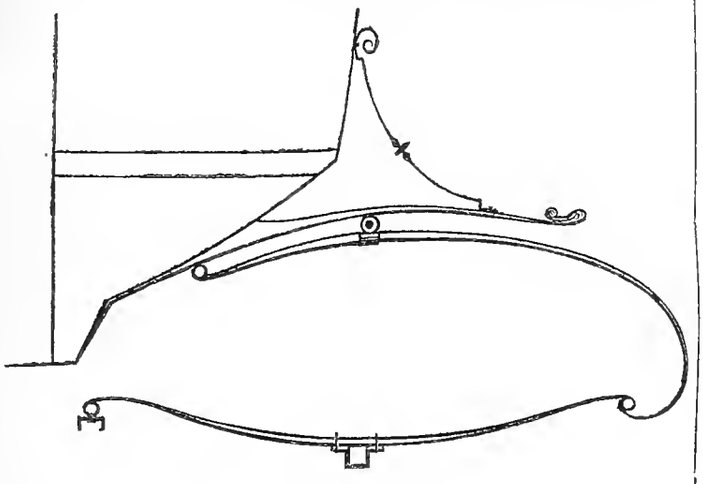
Illustrated on Plate XXVIII.

This is another original drawing from one of our own designers, which cannot fail to please the most fastidious taste. The *figuring* on the side is the work of the painter, and if well done will produce a beautiful effect. The price of this buggy, built in New York, would be $300. Height of wheels, 3 feet 10 inches, and 4 feet. Hubs, $3\frac{1}{2}$ by 6 inches; spokes, $\frac{7}{8}$ inch; rims, 1 inch; tires, steel, $\frac{1}{8}$ by $\frac{3}{4}$ of an inch.

Sparks from the Anvil.

EASY-RIDING SCROLL SPRING.

THE diagram accompanying this article represents a very excellent, easy-riding scroll platform spring for coupés and other vehicles hung up in a similar way.



SCROLL PLATFORM SPRING.

The scroll half of the spring should be connected to the loop with knuckles. These impart to the spring a double action, allowing the full benefit of a lengthened spring. In this discription of spring, a cross stay takes the place of a bar.

HELPERS IN THE SMITH SHOP.

SOME manufacturers seem to think—judging from the indifference they show in hiring—that almost anybody, who is strong enough to swing a sledge can do the work of a helper in a carriage shop, providing he can only be got cheap. A greater mistake never was entertained. To make a good helper requires that he not only be a practised hand, but that he likewise possess a certain amount of intelligence. A poor helper will never make a good smith, while some good helpers will *pick up* the trade in a few months—they are so smart. This manner of turning out *finished* workmen cannot be commended. A person who *learns* himself is very likely to lose the practical details which time has bequeathed to the race of mankind—the experience of ages—and in nine cases out of ten prove an indifferent workman.

The great fault with helpers is, their ambition, in most cases, only extends to the supplying of their daily wants, and these are frequently and chiefly purchased in the "corner grocery." They complain that they cannot get along without stimulants, and in practice too often take the intervening time to spend the hard earnings of the previous week. This is all wrong, as every intelligent mind must be aware of, and should be reformed. It has been proved by humanitarians, over and over again, that a temperate man will do twice as much labor in a given time as any one weakened by intoxicating liquors can. Of this, then, there is no question. The great misfortune is, few addicted to drink will ever ponder it seriously, and in the light thereof extricate themselves. How many times in our lengthened experience have we seen the forge-man have to "lay off" because his helper was not on hand on Monday morning.

To make a good helper, then, requires that he be steady. A helper who leaves the scrap-iron scattered all around the shop, or who never uses a broom on the floor, or gets to the shop late, cannot be considered a good helper. The neglect to "pick up the pieces" entails loss upon the manufacturer, the disuse of the broom inconvenience to shopmates, and lateness in "blowing up the fire" is introducing a very bad habit for imitation. No one ever yet got rich by being late at his work. Such, Franklin tells us, may travel all day and then not overtake their work at night,—a fact which many have found out, alas! too late.

BLACKSMITH'S COAL.

LAST month we announced to our city subscribers that we had laid in a stock of Cumberland coal from the celebrated Barton Colliery, which we were ready to deliver to our friends at the lowest market rates. Every man of experience knows that a poor quality of coal, at any price, is dear in a carriage-smith's shop; no workman, however competent, being able to do good work with poor coal. As we can recommend and warrant our stock, in this case you are sure to get a good article. Send in your orders.

Paint Room.

DIFFICULTIES IN CARRIAGE PAINTING.

BY J. S. LEGGETT.

EVERY carriage painter who has become master of the art in all its branches, has undoubtedly done so by perseverance, experience and patience. Since we have many difficulties to encounter from the use of inferior qualities of material, which are so frequently manufactured for the trade, persons deficient in the natural faculty of judging and comparing colors will not be as likely to succeed as those with a natural taste. However, a practical knowledge will overcome this difficulty to some extent. I will not dwell on this subject here, but will proceed to show some of the difficulties that come under the observation of every carriage builder.

There are but few shops in this country, where painting is done, where more or less of the work does not crack after the vehicle has been in use for only a short time. This occurs sometimes from the use of bad material, but more frequently through the fault of the mechanic. Carriage manufacturers sometimes think, filling in bodies is but a simple matter; therefore it is left to be done by apprentices or inexperienced workmen. As long as work is left to be done in this way, so long will we have unsubstantial painting. I do not oppose apprentices, it is necessary they should be admitted into shops; and receive instruction, that they may take the place of those that are passing away. But I do contend that they ought not to be allowed to do work that requires so much care as that of filling in bodies, until they have a practical knowledge of less important branches of the business.

As there are many different substances used for rough stuff, it would be useless for me to recommend a way to prepare any one of them, to make a hard and durable surface. English filling, and similar substances, that become hard and brittle when dry, ought to be made slightly elastic with oil and varnish; otherwise they will most invariably crack.

Another difficulty I am led to notice, is that of the cracking and flaking off of the paint from carriage parts. I shall not attempt to offer any suggestions on the system of lead painting in carriage work, but will at once recommend something I think more applicable to the wants of the carriage painter. I have been using for some time Piotrowski's wood filling with satisfactory results. It does not become hard or brittle, and therefore will not crack or allow the superincumbent coats to peel off, as when the old system is followed. There are some that persist in the old system of doing work, thinking any new invention foolish und useless. To all such I would point to the improvements in mechanical art during the last ten years. Where such things are visible we cannot hope to theorize to advantage for those who will not thus be convinced. I do not wish to convey the idea that we should experiment with every mixture manufactured, patented, and sold throughout the country, but when we find anything that proves really worthy of our attention let us buy it, and use it with care.

I was talking with a mechanic not long since who worked in one of the most extensive carriage manufactories in New York, who made the remark that they were using Piotrowski's filling in his shop, but contrary to directions by using turpentine. This had been done unknown to their employers as a matter of course, and in consequence he had known the paint to flake off, leaving the wood unprotected. I regret to be obliged to expose such dishonesty, but under such circumstances I feel the painful necessity of so doing. If God has given you intelligence, then labor to elevate principle, and study for the reputation and advancement of mechanical art. If I have protested, it is not only to acquit my own conscience, but in the hope of correcting the fault and doing away with evil practices in others.

Several inquiries having been made in regard to the character and method of using the "Permanent Wood Filling," the proprietors, Messrs. Valentine & Co., have published some directions not embraced in their circular, which we here subjoin to the article from our correspondent:

This article is in liquid form, prepared ready for use, and is sold in cans of 1 and 5 gallons at $6 per gallon net.

To dry quickly and to rub or sand-paper well, it should be applied thinly with a short brush. When properly applied it is a perfect and permanent *grain filler* and *grain holder*. One thin coat will penetrate all the small pores of the wood, permanently filling them. Wood so filled will, even after months of exposure to the weather, hold a coat of varnish and preserve its briliancy.

It is a perfect and permanent anti-damp—a single coat preserving wood from absorbing dampness during the longest sea voyages.

It is not offered as a *leveler* for uneven panels or other imperfectly finished wood work. That must be accomplished with putty, "rough stuff," or other levelers. On bodies two to four coats of rough stuff may be used, according to the condition of the wood and the degree of smoothness required. If the wood be *perfectly smooth*, however, a color coat (elastic) may be applied directly on a coat of the filling, omitting the usual coats of rough stuff and other levelers.

STRIPING PENCILS.

BY A DAUBER.

Pencils for fine striping are difficult to be obtained of the proper size. It is therefore best for the workman, to make them to suit his fancy out of larger ones. This will make them much cheaper, and it requires but little practice to get them of the right length—neither too long nor too short. A sable or fitch hair pencil is far better than one made of camel's, and are now more generally employed in fine work. A camel-hair pencil carries too much paint, while a sable one is self-adjusting, taking only the proper quantity for the stripe.

When a pencil becomes warped from carelessness or other cause, they may be straightened by laying them on a shovel, (not hot enough to burn the hand), of the proper temperature. When not in use a pencil should be laid away on a piece of glass, saturated with sweet oil, well and straight, in a place free from dust. When carefully done, a pencil will be found at the end of a month in as good condition as when first put away.

ORIGINAL MONOGRAM.

Illustrated on Plate XXVIII.

This is a continuation of our monthly series of original monograms, from the pencil of our friend and regular correspondent, Mr. J. S. Leggett. It will be followed by others hereafter to be given, from the same gifted artist. Although this may not be exactly the thing wanted for your customer, yet it will serve as a subject for study, and thereby answer some very good purpose. If you cannot with this help "fix out" a customer, send his initials to us and we will do it for one dollar the letter.

Trimming Room.

HOW THE FRENCH LEATHER IS TANNED.

To commence at the beginning of the process, we will first pay attention to the tan bark. It is, of course, oak; but it is not, as in America, taken from large trees, for the simple reason that the larger the trees the weaker the tan. The bark is assorted according to the size or age of the tree from which it is taken. The smallest is very strong, and used for the very heaviest sole leather, and saddle leather particularly. A coarser grade of bark serves for common cow hides, strop leather, etc., and a still coarser for sheep, calf, and the light hides that are used for making glazed leathers. The way of grinding the bark is of more importance than it would seem at first thought. The mills consist of a long trough in which to put the bark, and a number of perpendicular wooden

beams, which the machinery raise and let fall on the bark by means of an eccentric wheel. The beams are shod with an iron plate which terminates in a number of teeth or blades. The bark is thus half broken and half chopped in pieces, and is not reduced so finely as in the ordinary iron mills, but the inner portion of the bark, where the greater part of the tanning is, is reduced to a powder almost impalpable, so that the solution of the salt it contains is greatly facilitated. For heavy leathers this method of grinding is of prime importance, giving advantages both in time and quality of leather.

The hides are first thrown into a vat of lime water, where they remain until the hair is loosened, then they are taken out, the hair removed, and the hides put to soak in the river to remove the lime. After this they are scraped and carried to vats, where they are covered with "juice of tan"—that is, water in which tan bark has been soaked—until the solution is as strong as possible. After three or four days, the hides are again removed and scraped, and put into the vats, where the process is achieved. Here we find the first essential difference between the system of America and the French. In America, the hides are put into the vats with a good deal of water—here they are put in and packed firmly in the vats dry. Then, when the vat has been filled up over them with three or four feet of tan, a few pails of "juice of tan" is poured over, hardly enough to moisten the whole mass.

The hides remain in these vats for at least six months—sometimes two or three years; the longer the better. For first-class leather a year is required; but such is the increase of value in hides, in proportion to the time they rest in the vats, that they could not find a better investment for their money. Seven to ten per cent. a year is added to the value of the leather by resting in the vats up to four years, after which time there is no further motive for letting it remain, as it has absorbed all it can contain of the properties of the tan. After coming out of the vats, the leather is scraped, rolled, dried, and curried; but all these are operations that have no influence on the durability of the leather, being simply matters of ornamentation and finish. The secret of the excellence of French leather is resumed in these three observances:—1. Using strong tan, *i. e.*, the bark of young trees. 2. Packing the leather in the vats dry, and wetting the least possible. 3. Letting the leather stay a long time in the vats.—*Cor. Chicago Rep.*

EFFECTS OF INDIA RUBBER ON LEATHER.

INDIA rubber is said to have a very serious effect on leather when placed in contact in harness or elsewhere, the leather soon becoming rotten and comparatively worthless.

TANNING LEATHER WITH LEAVES.

AT the Farmers' Club, on the 6th of October, a gentleman presented a specimen of leather tanned with an extract from forest leaves. Mr. O. M. Tinkham, the exhibitor, having followed the presentation with some remarks, a committee was appointed to make a chemical analysis of different varieties of leaves to ascertain their value as tanning substances. We may therefore look for something interesting from future investigations.

Editor's Work-bench.

BRUSSELS INTERNATIONAL CONGRESS OF WORKINGMEN.

THE second week in September will hereafter be distinguished as that in which the "International Congress of Workingmen" met in the city of Brussels, to take measures for the reformation of mankind in general, and the radical amelioration of trade in particular. This Congress, although called "International," as many unions in this country are, was evidently a misnomer, since nearly all the delegates were Teutonic, with but a small sprinkling of English and French, with not a single American present. Although the addresses on this occasion were quite as sensible as those usually delivered by the delegates of workingmen among us, yet, as reported by the press, do not strike us as being of a very high order, either in literary ability or logical acumen. The resolutions with which this Congress commenced business, after the disposal of the usual preliminary matters, read as follows:

1. That strikes are not a means to the complete emancipation of the laboring classes, but that they must frequently be resorted to under the actual situation in the present struggle between labor and capital.

2. That it is necessary to submit to certain rules and regulations in their organization, to be mindful of the proper opportunities, and not to infringe the law.

3. As there are many places in which no trades unions exist as yet for mutual support, the International Workingmen's Association ought to take the initiative to create such institutions in all trades of every country, to combine them locally in federal unions, for mutual assistance in case of strikes or lock-outs, and by this means to organize the whole laboring population.

4. That wherever there is an opportunity, and no legal obstacles interpose, places ought to be named in which groups may be formed, and that in every such place the local committee ought to consist of delegates of the divers societies to constitute councils of arbitration, and to judge of the legitimacy of strikes. It will be necessary to leave the different sections a certain latitude in the mode of forming these courts of arbitration in accordance with the moral habits and the particular legislation of the respective localities.

The foregoing resolutions embody all the old fallacies of a past age respecting the relations of capital to labor, in that they suppose them to be antagonistical,—setting down the one as a tyrant, while the other weeps over his present condition in imaginary slavery. Hence the workingman is constantly found with the word "emancipation" on his lips, mixed with curses against the capitalist, or, in other words, is forever "whining like a dog with a sore head," instead of setting himself at work temperately, economically, and industriously, as he may with a certain prospect of success, thereby *emancipating* himself more

effectually than he could do in a lifetime through the promises of demagogues, who, as we have seen in this country, cater as long as they find it pay; but desert them as soon as they find it fail. Until the laboring classes dismiss some of the false notions they entertain, and treat capital as a friend instead of a foe, and come to understand the first principles in political economy, we shall never expect much advantage from the deliberations of congresses like that met in Brussels or elsewhere.

The legitimacy of strikes is a question which we shall not undertake to decide here, but if the *argumentum ad hominem* as illustrated by similar undertakings in this country is worth anything, mechanics and others will hesitate a long time before they resort to such measures. The losses to the public, in this country, from strikes the past year, has been enormous, but no one has suffered so much as those engaged personally in them. This might be borne with some degree of philosophy, did any practical benefit follow; but being otherwise, will be set down as miserable failures.

These Brussels sages seem to have had some queer notions regarding machinery. They tell us that, "considering that the introduction of machinery in the process of manufactures has always been a means of using the laborer for the profit of the capitalist, considering that the machine will not render a real service to the workingman until it is in their hands, we conclude it is only in the co-operative association that the producers can arrive at any practical result, and that the obstacles which to-day prevent workingmen from deriving any benefit from the machine can be removed;" therefore it was

Resolved, That on one side, machinery has proved a most powerful instrument of despotism and extortion in the hands of the capitalist class; that on the other side the development of machinery creates the material condition necessary for the superseding of the wages system by a truly social system of production.

Luckily for mankind, the world is progressive, and still more fortunate that mere resolves will never stop its progress. How machinery can be an "instrument of despotism" would puzzle the most ingenious economist to find out. Experience has shown that while the humblest individual has been able to procure some of the luxuries of life much cheaper than formerly, his own daily wages have been doubled and his toil reduced.

HOW THE EIGHT-HOUR SYSTEM WORKS.

Hitherto we have examined the eight-hour system from a rather speculative point of view; it now remains for us to give its practical workings, as shown in a report made to the Treasury Department by the superintendent of government works. He says:

"For the benefit of the sympathetic friends of the unfortunate mechanics and laborers who are regarded as overworked in government employ, I will state that I have certain knowledge that throughout the whole time the eight-hour system has been in operation on this work, my employés have had time and strength to engage voluntarily in work for private builders from four to six hours nearly every working day, earning as ordinary masons in some cases a per diem pay equal to my own as superintendent of the work, and the common laborer earning three dollars per day in some instances. The very few among the men who have not been so lucratively engaged have failed, I regret to state, to spend their leisure in reading the *Congressional Globe* or otherwise devoting themselves to literary pursuits, but have rather, as a general rule, given their attention to the pleasant recreation of playing draw poker at ten cents anti, and imbibing "whiskey straight." In conclusion I regard it my duty to say, as I do unhesitatingly, that after three months' personal observation of the eight-hour system on this work, I regard it as an outrage on the government which ought not to be borne."

A cotemporary says that "these remarks of the superintendent alluded to, have excited the ire of the workmen, who very naturally say it is none of his business how they spend their time after regular working hours, provided they perform their duties regularly for the government." These men did not talk that way when advocating the passage of the law. They then pleaded for relief from "overtasked burthens" and hours in which to improve their minds, and now when they have obtained their object, through political influence, and its practical workings are exposed, they turn around and tell their best friend, that "it is none of his business." We say it is his business as the agent of the public, and it is his legitimate province to report thereon for future action.

Very few industrious men have ever been found clamoring for the passage of this law. This has been done chiefly by that class who are forever lounging about the corner groceries and spending all their spare hours in dissipation, and now we have proof that the eight-hour law benefits neither them nor the public. The ill effects of injudicious legislation in this direction is well illustrated by the action of the coal miners in Pennsylvania the past season. These have several times *struck* for eight hours, and on each occasion have been induced to go back to ten hours by the offer of increased wages, until during this process coal has gone up in New York from six and a half to eleven dollars. This may have given a few dollars temporarily to a few individuals, but the great body of the public, "whose name is legion," have to pay for this *amusement* enormously.

Elsewhere in this volume we have shown, that in adopting the eight-hour system twenty per cent. of the industrial capital of the country would be lost, and consequently it would be made so much the poorer, while such a system in general use would open the door to importations from abroad at once ruinous to us. Labor would so increase in value compared with the same commodity abroad,

that carriages as well as other manufactures could be made in Europe, import duties paid on them and afterward sold here for less than we could make them, and still leave a broad margin for profitable investment. The only obstacle in the way of such a result would be unsuitableness of tastes between the two countries, which time would soon overcome.

VISIT TO NEWARK.

OUR esteemed friend, B. F. Harrison, Esq., the celebrated axle manufacturer of Newark, having sent us an invitation to visit that city and dine with him, we took an opportunity offered a few days ago by fine weather, to enjoy that pleasure, in connection with some unsettled business we had to transact there. This gentleman, as may be seen from the change in his advertisement, has recently removed from his old stand, in Quimby's alley, leading out of Fair street, to the Tomlinson Spring Company's new building on Railroad avenue, opposite the Chestnut street depot of the N. J. Transportation Co.'s road.

Mr. William H. Saunders, whose name has become celebrated as one of the earliest to engage in axle making in this country, used to say, that after him the firm of Harrison & Breese (of which our Mr. Harrison was formerly a partner) came next in order of making the best axles in this country, which in that day was considered a very high compliment. Mr. Harrison has now one of the most complete axle manufactories in America, furnished with powerful hammers, shears, saws, lathes, &c., providing facilities for making two hundred sets of axles a week, assorted sizes. As the process of finishing axles by machinery may be new to most of our readers, we shall embrace the opportunity afforded us by this visit to add a few details.

We will suppose, to begin, that the future axle now lies in the form of a three-inch square bar of choicest iron, before the shears,— this of course is regulated in proportion to the size of axle intended,— which, being brought under them, is cut up into suitable lengths for further uses. These lengths are next placed in a furnace until they become red hot, after which they are taken out and placed under a hammer, over a mould or die when a solid collar is soon formed by steam power. After this, the bar is placed over another groove in the die giving the taper of the embryo journal for the box. In these operations, the dies are regulated— either smaller or larger — according to the sizes of the axles wanted. Next the "shank" is shaped under a trip hammer, by the workman's eye, which of necessity must be somewhat mechanical to do this labor properly. No mere novice should undertake it. When this iron gets cool, it is placed in a lathe, turned so as to fit the box, the thread of the screw cut, and the nut fitted on. The threads, as every carriage maker knows, or ought to at least, are made either *right* or *left:* those for the near side of the vehicle being left, the off right, so as to "turn up" with the forward movement of the wheels. This is done to give increased security, the nuts in all cases turning up with the wheels. Next the axle is ground and polished by using emery and oil, after which it is case-hardened, and then again polished. This gives the axle the fine silver-looking finish, familiar to all who handle the best axles.

The case-hardening or steel converting process is not the least interesting part of the making of axles by any means. To do this effectually, the material is buried in a bed of bone dust confined in a suitable mould a placed in a "fiery furnace," where it remains from four to five hours, until it is well carbonized, after which the axle is cooled (hardened) in clean water. The axle after this receives the second polishing, as before stated, when the work is ready for the manufacturer of carriages.

TRADE NEWS OF THE MONTH PAST.

ANOTHER "conspiracy case" is before the court in Newark, N. J. A boss mason having transgressed the rules of the union, by taking an apprentice, from New York, without the documents to show that he had been faithful to his former master, his journeymen struck; Mr. Piersen, the employer, was obliged to accede to their demands (which he did) or stop business. Afterwards he had nine of them arrested, and advertised for men "who would mind their own business," to fill their places. We understand that the trades union men have been indicted and will be tried for a conspiracy.....The hours of labor in the Fall River (Conn.) woolen factories have been increased from ten to eleven, incurring a protest from the operatives....."The Cigar Manufacturers'" and "the Cigar Makers' Union" are the names of two organizations in New York, the first representing the bosses and the last the journeymen. These la t have lately countenanced a strike for higher wages, and carried it into effect. To counteract this, the Cigar Manufacturers adopted it as a rule, that "when the hands of a cigar factory are on strike, the proprietor notify all the members of the association through the secretary of the names of the strikers, in order that if application for employment be made by any of them, their identification may be established and their services rejected." A very good antidote against a growing evil. ....The workingmen of New York made strenuous efforts in November last to carry their cause into the political arena, by electing men to the Legislature pledged to repeal the conspiracy laws and enforce the eight-hour law. ....The Liverpool Trades Union Operative Bricklayers have requested the Master Builders' Association to join them in settling a permanent code of regulations which shall be satisfactory to all parties, through a court of arbitration.

MISCELLANEOUS NOTES FOR THE PAST MONTH.

Messrs. Quimby & Co., of Newark, having disposed of the grounds on which they have so long carried on the coach-making business, to the Newark and New York Railroad Company for about $150,000, one of the most extensive carriage shops in New Jersey is likely to be annihilated, unless, as is problematical, other quarters are soon obtained. The late fire in L. F. Goodyear's carriage axle and pistol factory, New Haven, Conn., damaged the building, machinery, and stock, to theamount of $30,000, insured for $15,000 in various companies.....The Union spoke factory, corner of Front and Canal streets, Philadelphia, was destroyed by fire on the morning of the 12th of October. The bending works of B. F. Miller and Fitler's hub factory were destroyed at the same time. Losses, $60,000. Insured for $25,000.....The wagon shops of Hunt & Forsythe and Mr. Case, in Fond du Lac, Wis., were destroyed by fire on the morning of the 29th of October. Losses about $20,000.....Nine young men who left Rouen on their velocipedes at 7 in the morning, reached Paris at 9 in the evening, travelling thirty-two leagues (144 miles) in eleven hours, three of which they took for resting, thus going about thirteen miles per hour.....A honeymoon car is to be placed on the Pacific Railway when completed, for the benefit of bridal parties.....The ex-queen of Spain in her late flight left behind one hundred and seventy carriages, several splendid Arab and English horses, and a fine collection of mules. One of the vehicles used to carry her majesty to the opening of the Cortes, is a marvellous specimen of gilding and carving, the trappings of which are of the most rich and gorgeous description. A very curious historical relic among this collection, is the quaintly sculptured vehicle in which Jane, Charles V.'s insane daughter, traveled with the body of her dead husband, Philip the Handsome.....In Milwaukee harness makers are termed "horse milliners."

LITERARY NOTICES.

The Atlantic Monthly for November opens with an article on co-operative housekeeping, in which the writer introduces a young wife reduced in flesh and careworn by fashionable life, which leads her to conclude that "*entirely too much* is expected of women." Pursuing the subject, a lively picture is given of the old mode of housekeeping, which contrasted with the modern, shows that something must be wrong in our domestic economy. Some idea of what this wrong is, may be gathered from the fact that the modern housewife only consumes, the producing class being mechanics' and farmers' wives. Another mistake is, that men have been allowed to monopolize all the work, by employing sewing girls and machinery. The article ends—to be continued in Dec.—by proposing co-operative housekeeping as a preventive against the failure of all other co-operative societies in the land. There are fourteen other articles, besides "Reviews and Literary Notices," in this number,—all tending to maintain the high literary character of this sterling monthly.

Patent Journal.

AMERICAN INVENTIONS.

Aug. 18. (81,217) Running Gear for Wagons.—C. M. Sexton, Aurora, Ill.: I claim the combination and arrangement of the divided axle C, double guide *h*, rods I, braces K, and slotted plates L, substantially as herein set forth. Also, the hangers O *o*, strap P, pulleys Q, equalizer R, and springs H, when constructed and used for the purpose substantially as herein specified.

(81,227) Carriage.—Smith Titcomb, Amesbury, Mass.: I claim, *First*, The construction of a carriage body with fixed and movable seat-slides the movable slides having a carriage top attached thereto, and combined as described, so that the carriage and the same seat or seats may be used with or without the top. *Second*, The combination of the plates E E, *c c*, and G G, with flanges *d d* and thumb-screws F F, with the fixed and movable seat-slides of a carriage, substantially in the manner and for the purpose as herein described.

(81,239) Wagon Coupling.—James M. Wynn, Scipio, Ind.: I claim the coupling device *a a a*, *e e*, *b*, *f*, *g*, all substantially as and for the purpose set forth.

25. (81,327) Wagon Spring.—Calvin Atherton, Wales, Mich.: I claim the arrangement of the semi-elliptic springs A and C, in connection with the jacks B and D, and the running gear of any wagon or carriage, substantially as herein set forth.

(81,355) Thill Coupling.—Reuben Fink and Jacob B. Hershock, Lancaster, Pa.: We claim, *First*, The combination of the hinged pieces A B, arranged and entering the slotted prolongation of the bed plate *c*, substantially in the manner and for the purpose specified. *Second*, In combination with the piece A, hinged at *a* to the notched piece B, the bed plate *c*, when prolonged and furnished with a slot, H, and coiled spring D, arranged and operating substantially in the manner and for the purpose described.

(81,363) Coupling for Vehicles.—Charles W. Greter, Three Rivers, Mich.: I claim, *First*, A coupling device for vehicles, constructed and arranged substantially as described and for the purposes set forth. *Second*, The curved plate *m* with notch *i*, braces *j j* with curved slot E thereon, and cross-plate *l* with nib *g*, substantially as described, when constituting the prominent features of a vehicle coupling, all as set forth.

(81,382) Wagon Brake.—F. D. Ladenberger, Glenbeulah, Wis.: I claim, *First*, The combination, in a wagon brake, of the cross-bar A, loose sway-bar B, connected by any suitable rods *i i*, and kept back to the extent of their play by a spring *e*, of any suitable form or arrangement, with brake-shoes *j j*, suspended by stirrups or links *k k*, connected with the axle-tree by rods *h h*, all arranged to operate as brakes by being connected with the double-tree *m* by the plates *a* and *b*, all substantially as shown and described. *Second*, The combination, in a wagon brake, of the concave iron *l* on the sway-bar B with the friction roller *n*, the slotted plate *b*, slotted tongue, and double-tree bolt, all arranged to take the draught strain proportionately when the sway-bar and cross-bar are drawn forward to the extent of their forward movement, all substantially as herein shown and described.

(81,431) Spring for Vehicles.—Charles D. Sutton, Tarrytown, N. Y.: I claim an improved platform spring, formed by the combination of the cross springs C, constructed substantially as described, and forming a flat support for the fifth wheel, with the side springs B and shackles D, as and for the purpose set forth.

(81,449) LUBRICATING HUBS AND AXLES.—Thomas Wilson, Garton, England: I claim, *First*, The cam nut *v*, when arranged to operate substantially as described and set forth. *Second*, The oil receptacle *j*, in combination with the conductors *n n*, substantially as and for the purpose described. *Third*, The pistons *l l*, with their valves *m m*, when operated upon by a cam nut *v*, substantially as herein described and set forth. *Fourth*, The sand guard *g* and waste box *t*, in combination with the box *c* and bearing *p*, when arranged substantially as described and set forth. *Fifth*, The arrangement and combination of the oil receiver *j*, pistons *l l*, with valves *m m*, conductors *n n*, box *c*, with its nuts *d* and *e*, bearing *p*, with spiral groove *q*, waste box *t*, sand guard *g*, shell *f* and *f'*, and hub *a*, all when arranged substantially as described and for the purposes fully set forth.

(81,452) FIFTH WHEEL FOR CARRIAGES.—Edmund Yeiser, Sheriden, Pa.: I claim the perch plate B, as constructed, in combination with pin *g*, guides C C, axle D, bar A', and supports H H, arranged substantially as set forth.

(81,527) THILL COUPLING.—Eli M. Morrison and James K. Ross, Noblesville, Ind.: We claim the eccentrically-shaped thill iron E, in combination with the carriage clip A, rubber packing C, and bolt D, constructed as described, and operating substantially as and for the purposes herein set forth.

(81,538) SHIELD FOR CARRIAGE-CURTAIN BUTTON HOLES.—W. G. Queal, Otego, N. Y.: I claim the above described combination of shields A and B, with flexible or metallic back, attached to the button holes of carriage curtains, for their preservation, and for security of fastening, in the manner and for the purpose as substantially set forth and described.

(81,545) CARRIAGE WHEEL.—Jacob T. Shimer, Easton, Pa.: I claim the combination of the wrought-iron spokes B B, threaded at each end, with the cast-iron hub A, having screw-thread perforations, and the wooden rim C, angular plates *c*, and screws *d*, all arranged together in the manner set forth.

(81,550) TIRE BENDER.—T. M. Stansbury and A. F. Stansbury, Canton, Ill.: We claim the arrangement herein described and shown of the devices, viz.: the posts *d d*, rollers *e* and *c*, lever *h*, spring *i*, segment-ratchet bar *k*, and frame *a*, for the uses and purposes herein set forth.

(81,554) MOULD FOR CASTING SLEIGH SHOES.—Charles Shore, Montano, Iowa, assignor to himself and Levi Heigus: I claim the flask or metallic mould for casting sleigh shoes, constructed and arranged as shown and described.

Sept. 1. (81,595) SPOKE-TENONING MACHINE.—A. Harvey Calhoun and George W. Collins, West Lebanon, Pa.: We claim the cutters, l, n, attached to the adjustable straight bars, m, and the curved braces, O, all suspended from the upper cross bar, a, of the sash frame, and constructed, arranged, and operating as herein shown and described.

(81,621) WAGON AXLE.—G. S. Garth, Mill Hall, Pa.: I claim, *First*, An axle provided with collars, a, b, of anti-friction metal, the latter (b) being cast on a dove-tailed collar, e, which is formed on or fitted to the axle, as herein shown and described, when the raised portions of the band, b, and shoulder, f, are encircled by a band, d, as set forth for the purpose specified. *Second*, The strengthening band, d, encircling the raised portions of the band, b, and shoulder, f, substantially as shown and described for the purpose specified.

(81,663) TIRE HEATER.—P. P. Hemstreet, assignor to himself and David Gudtner, Galesburg, Ill.: I claim, *First*, The outer rim, A, bottom, B, lids, Q, chimney, R, lever, U, rods, S, band, X, bars, N, o, and inner rim, B, all constructed, arranged, and combined as described and for the purpose set forth. *Second*, The dampers, D, rods, T and S'', and lever, F, with rods, L and H, and rim, C, constructed and arranged as described and combined with rim, B and A, and bottom, B, substantially as described and for the purpose set forth.

(81,642) CARRIAGE COUPLING.—Alfred S. Johnson, assignor to himself and Enoch Van Wie, Waupan, Wis.: I claim a thill coupling, formed of the parts A and B, constructed, arranged, and operating substantially as shown and described, for the purpose set forth.

(81,651) HOLD-BACK.—Lois Kruse, Sabula, Iowa: I claim the application to the tongues of wagons and other vehicles of the spring latch, arranged as hereinbefore set forth, which will secure the neck-yoke in its place, and which may yet be removed when desired.

(81,696) SELF-ACTING WAGON BRAKE.—Thomas Smith, California, Mo., antedated August 29, 1868: I claim the self-acting wagon brake, composed of the block, e, pivoted to the adjustable slide, G, which is itself directly attached to the spring, E, and operated by the rods, h and I, and yoke, J, when the parts referred to are constructed as described, and combined and arranged in the manner and for the purposes specified.

(81,699) SLEIGH.—Lewis A. Spickler, Clear Spring, Md.: I claim, in a sleigh, adapted to be drawn by power applied in front, locating the point of attachment of the shafts behind the upturned part, D, upon the rave, C, or bifurcated iron, as herein shown and described for the purpose specified.

(81,737) SHAFT FOR VEHICLES.—Augustus Bean, Fairview, Pa.: I claim, *First*, The shaft, H, provided with a curved extension, I, sliding under the bed of a cart in the guard, J, on the inner side of one of the short shafts, C, and held in position by means of a spring, K, substantially as and for the purposes herein set forth. *Second*, The shaft, F, hinged to one of the short shafts, C, and connected by means of a cross-bar, G, to the shaft, H, substantially as and for the purposes herein set forth. *Third*, The combination of the shafts, F and H, when constructed and attached to a cart in the manner described, and operating, substantially as and for the purposes herein set forth.

(81,750) DEVICE FOR OPERATING WAGON BRAKES.—Dennis W. Carkhuff, Lambertville, N. J.: I claim a slotted lever, ratchet, pawl, spring, and guard when made and applied in the form and manner and for the purposes herein described and set forth.

(81,758) WHEEL FOR CARRIAGES.—W. H. De Valin, Sacramento, Cal.: I claim, *First*, Uniting the rim or tire to the hub or axle by means of a series of straps or flat bars of wrought iron, each bent at the middle, where it is attached to the rim, and having its diverging ends extending thence to the hub or axle, to which they are united in the manner set forth. *Second*, The combination, with the elongated hub, and the axle upon which it is mounted, of the rim or tire, and a series of wrought-iron straps or flat bars, for steadying and bracing the said rim, and for holding the same to the hub, the whole being arranged in the manner set forth.

(81,768) CARRIAGE SHACKLE.—William F. Gilbert, Derby, Conn.: I claim the combination of the sleeve or bearing, D, arranged between the cheek, A and B, and secured by the bolt, E, with the head, G, of the thill iron, the whole constructed so as to be united substantially as herein set forth.

(81,800) WAGON BODY.—Thomas E. Lewis, Pennville, Ind.: I claim a wagon body constructed and operating substantially in the manner described.

(81,828) CARRIAGE WHEEL.—George W. Seymour, Whitney's Point, N. Y.: I claim the combination and arrangement of the stationary key, D, with the wheel turning the axle box, E, adjustable thimble nut, F, and movable rings, B, B, all being constructed substantially as herein described and represented, for the purpose set forth.

(81,858) LUBRICATOR FOR AXLES.—John Worden, Normal, Ill.: I claim the circumferential reservoir, C, connected with the perforated skein, B, and the axle, A, with its longitudinal groove, x, to operate substantially as specified.

(42,199, dated April 5, 1864; reissue 3,105) CARRIAGE-CIRCLE COUPLING.—George G. Larkin, West Amesbury, Mass.: I claim, *First*, The lower circle, J, J, K, formed with a depressed rear portion, in combination with an upper circle, L, constructed and applied substantially as herein set forth. *Second*, In combination with the lower circle, J, J, K, and upper circle, L,

thus constructed and combined, the stop, M, for the purpose specified.

15. (82,068) WAGON AXLE.—C. D. Bachelder, Camden, Maine: I claim, *First*, The combination with an axle provided with an oil-recess, b, of the cap, g, arranged oil tight therein, and provided with a slot for the wick, substantially as and for the purpose described. *Second*, The recess, b, provided with the dividing rib, c, having a recess, d, for the wick, communicating with the recess, b, by the holes, e, substantially as and for the purpose set forth.

(82,069) WAGON JACK.—E. R. Baldwin, Southfield, Mass.: I claim the combination with the bracket, B, and stand, A, of the friction rollers, a and b, when applied and arranged as and for the purpose set forth.

(82,082) CARRIAGE SPRING.—Azro Buzzell, West Fairlee, Vt.: I claim my improved arrangement of the three springs, A, B, C, as described, without any connection extending from or about from the middle of one spring, B, to or about to that of the spring, C, the whole being as shown in the drawings.

(82,084) ANGULAR SHAFT COUPLING.—John M. Case, Worthington, Ohio: I claim, *First*, Forming the bars, D, upon which the segmental cogs, E, are cast solid, substantially as herein shown and described, and for the purpose set forth. *Second*, Forming rims or flanges upon the sides of the segmental cogs, E, for the purpose of preventing their lateral movement, and relieving the side pressure upon the connecting bars, F, as herein shown and described.

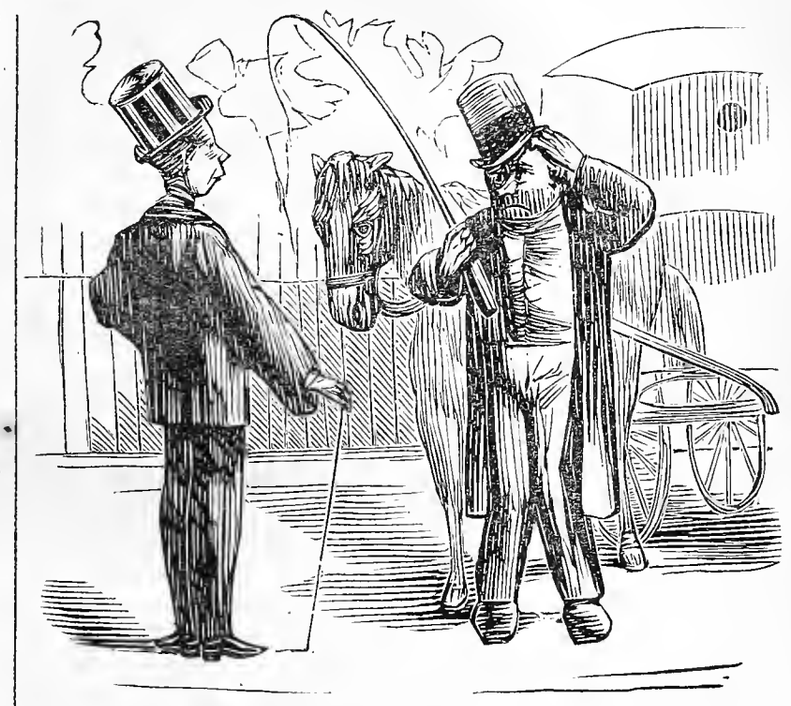
(82,127) ADJUSTABLE CARRIAGE POLE.—M. A. Koon, Catskill, N. Y.: I claim, *First*, Making the extension, B, through which the arms, C, C′, of the swinging braces, D, D′, pass, separate from the pole itself, substantially as herein shown and described. *Second*, The arms, C, C′, constructed as described, and attached directly in the pole extension by means of a horizontal aperture fitted through, and a screw, a, fitted into the same, as set forth. *Third*, Making the contiguous surfaces of the arms, C, C′, rough or toothed, as set forth, and forming in dentations, b, b, or their equivalents, on the outer face of one of them, substantially as and for the purpose herein shown and described.

(82,217) APPARATUS FOR DETACHING HORSES FROM CARRIAGES.—George Gabriel, assignor to himself and Philip Wisenberger, Pittsburg, Pa.: I claim, *First*, The plate, C, having the lock, E, pin, h, and eyes, a, a′, a″, substantially as described. *Second*, The combination of the plate, C, the bars, D and F, constructed and operating substantially as described.

(82,233) WHIFFLE-TREE SWIVEL.—M. F. Lanning, White House, N. J.: I claim a movable swivel, D, constructed as described, with one end longer than the other, and pivoted to the end of the iron, B, for the purpose of attaching traces to a whiffle tree, substantially as herein set forth.

Sept. 8. (81,883) CONSTRUCTION OF WAGON AND CARRIAGE WHEELS.—Matt. J. Dawkins, Brookston, Ind.: I claim, *First*, Setting or adjusting the wheel, with the spokes inserted therein, to the tire, by means of cams cast on to a thimble, said cams being located within the hub, and their faces bearing against the spokes, substantially as described and set forth. *Second*, The hub, made of three parts, viz., the back part, with the main box cast in one piece, the front part, and the thimble, with cams cast thereon. *Third*, The step-shaped form on the lower part of the spoke, which rests against the cams. *Fourth*, In combination with the foregoing, the tapering sockets in the centrally divided hub, substantially as described.

(81,902) FIFTH-WHEEL BENDER.—George W. Heckart, assignor to himself and Christian Kramer, Columbiana, Ohio: I claim a bending machine for "fifth wheels," consisting of a series of forms, B, clamping screw, C, and adjustable bending device,



GENT.—*Yes I want a coach for a funeral, but you have a very sorry looking horse there.*

COACHEY.—*An' how else but sorry would he look, sir; I have followed the poor baste three times to the grave already, this blessed day.*

formed of the arm, *x*, rollers, *f* and *h*, levers, D, 7, 8, 9, and 12 link, 11, and arm, 10, the whole being constructed, arranged, combined, and operating, as herein described and for the purpose set forth.

(81,924) FORWARD AXLE FOR CARRIAGES.—Hiram McIlroy, Poplar Ridge, N. Y.: I claim, *First*, The central pivot and socket, in combination with the hooks and flanges on the circles for uniting the head block and axle, substantially as described. *Second*, The chambered upper circles and hooks, and pivot socket, provided with the leather packing, substantially as and for the purpose described. *Third*, The upper-circle bar or plate, provided with the chambered circles and hooks, and with the central pivot, all cast in one piece, and united to the head block in the manner described.

(81,943) WHEEL FOR VEHICLES.—Henry Poth, Pittsburg, Pa.: I claim, *First*, The combination, in a vehicle wheel, of the tenon plate, *e*, beveled ring, *d*, screw-box, B, D, and metal hub, A, substantially as herein shown and described. *Second*, The combination, in a vehicle wheel, of the screw box, B, D, packing rings, *c* and *f*, when arranged to form an oil-tight space, *h*, between the box, B, and the metal hub, A, and provided with holes for the screw, *i*, all substantially as herein shown and described.

(82,340) SPRING FOR WAGON SEATS.—John H. Nale and John W. Rogers, Decatur, Ill.: We claim a spring seat for wagons, composed of reversible cross-spring braces, supported by and in turn supporting the seat by a bridge piece at or near their points of crossing, substantially as herein described and represented.

(82,343) WAGON.—Alvah Pate and Edgar Wilber Pate, Nankin, Mich.: We claim the construction of a wagon or carriage, combining the springs, D, body, E, semi-circular frame, H, roller, I, hanger, J, circle, K, "fifth wheel," L, and king bolt, M, or their equivalents, with any suitable axles, B, and wheels, A, when arranged, connected, and operating, substantially as and for the purposes herein set forth, shown, and described.

CURRENT PRICES FOR CARRIAGE MATERIALS.

CORRECTED MONTHLY FOR THE NEW YORK COACH-MAKER'S MAGAZINE.

NEW YORK, NOV. 18, 1868.

Apron hooks and rings, per gross, $1.25 *a* $1.75.
Axle-clips, according to length, per dozen, 50c. to 80c.
Axles, common (long stock), per lb, 8c.
Axles, plain taper, 1 in. and under, $5.50; 1⅛, $6.50; 1¼, $7.50; 1⅜, $9.50; 1½, $10.50.
Do. Swelled taper, 1 in. and under, $7.00; 1⅛, $7.50; 1¼, $8.75; 1⅜, $10.75; 1½, $13.00.
Do. Half pat., 1 in. $10; 1⅛, $11; 1¼, $13; 1⅜, $15.50; 1½, $18.50.
Do. do. Homogeneous steel, ⅞ in., $11.00; ¾, $11; ⅞, $12.00; long drafts, $2.50 extra.

☞ These are prices for first-class axles. Inferior class sold from $1 to $3 less.

Bands, plated rim, 3 in., $1.75; 3 in., $2, larger sizes proportionate.
Do. Mail patent, $3.00 *a* $5.00.
Do. galvanized, 3½ in. and under, $1; larger, $1 *a* $2.
Bent poles, each $1.00 to $1.50.
Do. rims, extra hickory, $2.75 to $3.50.
Do. seat rails, 50c. each, or $5.50 per doz.
Do. shafts, $6 to $9 per bundle of 6 pairs.
Bolts, Philadelphia, list. 25c.
Do. T, per 100, $3 *a* $3.50.
Bows, per set, light, $1.00; heavy, $2.00.
Buckles, per grs. ½ in., $1, ⅝, $1.12; ¾, $1.25; ⅞, $1 75; 1, $2.00.
Buckram, per yard, 18 *a* 23c.
Burlap, per yard, 14 *a* 16c.
Buttons, japanned, per paper, 20c.; per large gross, $2.25.
Carriage-parts, buggy, carved, $4.50 *a* $6.
Carpets, Brussels, $1.75 *a* $2; velvet, $2.75 *a* $4; oil-cloth, 45 *a* 70c.
Castings, malleable iron, per lb, 16c.
Clip-kingbolts, each, 40c., or $4.50 per dozen.
Cloths, body, $3.50 *a* $5; lining, $2.50 *a* $3. (See *Enameled.*)

☞ A Union cloth, made expressly for carriages, and warranted not to fade, can be furnished for $2.50 per yard.

Cord, seaming, per lb, 35c.; netting, per yard, 8c.
Cotelines, per yard, $4 *a* $8.
Curtain frames, per dozen, $1.25 *a* $2.50.
Do. rollers, each, $1.50.
Damask, German cotton, double width, per piece, $15 *a* $22.
Dashes, buggy, $1.75.
Door-handles, stiff, $1 *a* $3; coach drop, per pair, $3 *a* $4.
Drugget, felt, $1.75 *a* $2.
Enameled cloth, muslin, 5-4, 40c.; 6-4, 75c.
Enameled Drills, 48 in., 55c.; 5-4, 50c.
Do. Ducks, 50 in., 75c.; 5–4, 70c.; 6–4, 80c.

☞ No quotations for other enameled goods.

Felloe plates, wrought, per lb., all sizes, 20c.
Felloes (Rims), $1.50 *a* $3.
Fifth-wheels, wrought, $1.50 *a* $2.00.
Fringes, festoon, per piece, $2; narrow, per yard, 18c.

☞ For a buggy-top two pieces are required, and sometimes three.

Do. silk bullion, per yard, 50c. *a* $1.
Do. worsted bullion, 4 in., 35c.
Do. worsted carpet, per yard, 8c. *a* 15c.
Frogs, 50c. *a* $1 per pair.
Glue, per lb, 25c. *a* 30c.
Hair, picked, per lb, 40c. to 65c.
Hubs, light, mortised, $1.20; unmortised, $1. Coach, mortised, $2.
Japan, per gal., $2.
Knobs, English, $1.40 *a* $1.50 per gross.
Laces, broad, silk, per yard, 60 *a* $1.25; narrow, 10c. to 16c.
Do. broad, worsted, per yard, 40c. *a* 50c.
Lamps, coach, $10 *a* $30 per pair.
Lazy backs, $9 per doz.
Leather, collar, dash, 29c.; split do., 15c. *a* 17c.; No. 1, top, 29c.; No, 2, enameled top, 27c.; enameled trimming, 27c.; harness, per lb., 50c.; flap, per foot, 25c.
Moss, per bale, 8c. *a* 15c.
Mouldings, plated, per foot, ¼ in. 14c.; ⅜, 16c. *a* 20c.; ½, lead, door, per piece, 40c.
Nails, lining, silver, per paper, 7c.; ivory, per gross, 50c.
Name-plates. (See Advertisement.)
Oils, boiled, per gal., $1.25.
Paints. White lead, extra, $14.00, pure, $15.00 per 100 lbs.; Eng. pat. black, 30c.
Poles, $1.25 *a* $2 each,
Pole-crabs, silver, $5 *a* $12; tips, $1.25 *a* $1.50.
Pole-eyes, (S) No. 1, $2.25; No. 2, $2.40; No. 3, $2.65; No. 4, $4.50 per pr.
Sand paper, per ream, under Nos. 2½ and under, $4.50.
Screws, gimlet, manufacturer's 30 per cent. off printed lists.
Do. ivory headed, per dozen, 50c. per gross, $5.50.
Scrims (for canvassing), 16c. *a* 22c.
Seats (carriage) $2 *a* $2.75 each.
Seat-rails, 75c. per doz.
Seat-risers, Linton's Patent, $2 per pair.
Seats, buggy, pieced rails, $1.75; solid rails, $2.50.
Shafts, $12 to $18 per doz.
Shaft-jacks (M. S. & S.'s), No. 1, $2.40; 2, $2.60; 3, $3.00.
Shaft-jacks, common, $1 *a* $1.35 per pair.
Do. tips, extra plated, per pair, 25c. *a* 50c.
Silk, curtain, per yard, $2 *a* $3.50.
Slat-irons, wrought, 4 bow, 75c. *a* 90c.; 5 bow, $1.00 per set.
Slides, ivory, white and black, per doz., $12; bone, per doz., $1.50 *a* $2.25; No. 18, $2.75 per doz.
Speaking tubes, each, $10.
Spindles, seat, per 100, $1.50 *a* $2.50.
Spring-bars, carved, per pair, $1.75.
Springs, black, 16c.; bright, 18c.; English (tempered), 21c.; Swedes (tempered), 26c.; 1¼ in., 1c. per lb. extra.
If under 34 in., 2c. per lb. additional.

☞ Two springs for a buggy weigh about 28 lbs. If both 4 plate, 34 to 40 lbs.

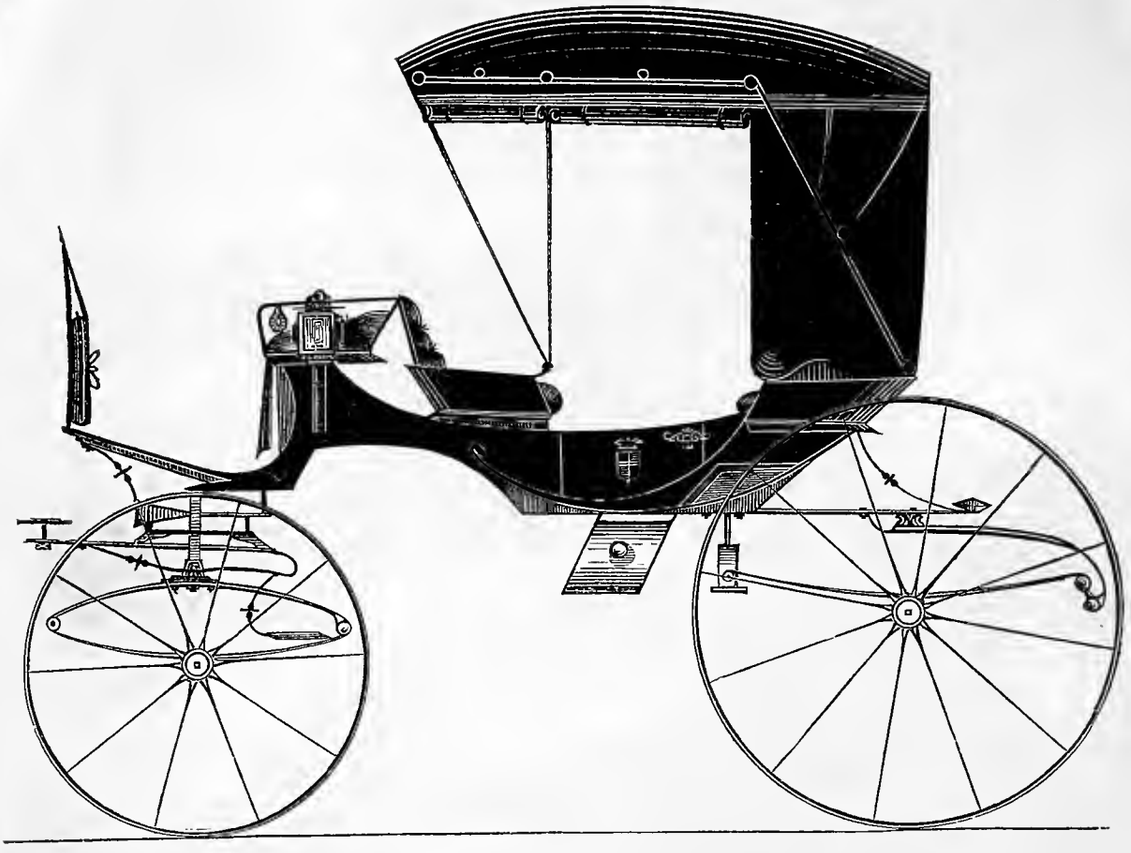
Spokes (Best Elizabethport), buggy, ⅞, 1 and 1⅛ in. 9½c. each; 1⅛ and 1¼ in. 9c. each; 1½ in. 10c. each. 10 off cash.

☞ For extra hickory the charges are 10c. *a* 12½c. each.

Steel, Farist Steel Co.'s Homogeneous Tire (net prices); 1 x 3–16, and 1 x 1-4, 20 cts.; 7-8 x 1-8 and 7-8 x 3-16, 23 cts.; 3-4 x 1-8, 25 cts.; 3-4 x 1-16, 28 cts.
Steel Tire—best Bessemer—net prices: 1-4 x 1 1-8, 14c.; 1-4 x 1, 15c.; 3-16 x 1 1-8, 16c.; 3-16 x 1, 16c.; 3-16 x 7-8, 17c.; 3-16 x 3-4, 17; 1-8 x 7-8, 20; 1-8 x 34; 1-16 x. 3-4, 23.
Stump-joints, per dozen, $1.40 *a* $2.
Tacks, 7c. and upwards.
Tassels, holder, per pair, $1 *a* $2; inside, per dozen, $5 *a* $12: acorn trigger, per dozen, $2.25.
Thread, linen, No. 25, $1.75; 30, $1.85; 35, $1.80.
Do. stitching, No. 10, $1.00; 3, $1.20; 12, $1.35, gold.
Do. Marshall's Machine, 432, $3.25; 532, $3.75; 632, $4, gold.
Top-props, Thos. Pat, wrought, per set 80c.; capped complete, $1.50.
Do. common, per set, 40c. Do. close-plated nuts and rivets, 75*a*80c.
Tufts, common flat, worsted, per gross, 15c.
Do. heavy black corded, worsted, per gross, $1.
Do. do. do. silk, per gross, $2.c. Do. ball, $1
Turned collars, $1.25 *a* $3 per doz.
Turpentine, pr gl., 60c
Twine, tufting, pr ball, 50c.; per lb, 85 *a* $1.
Varnishes (Amer.), crown coach-body, $5.00; nonpareil, $5.25.
Do. English, $6.25 in gold, or equivalent in currency.
Webbing, per piece, 65c.; per gross of 4 pieces, $2.40.
Wheels, $12 to 22.
Whiffle-trees, coach, turned, each, 50c.; per dozen, $4.50.
Whiffle-tree spring hooks, $4.50 per doz.
Whip-sockets, flexible rubber, $4.50 *a* $6 per dozen; hard rubber, $9 to $10 per doz.; leather imitation English, $5 per doz. common American, $3.50 *a* $4 per doz.
Window lifter plates, per dozen, $1.50.
Yokes, pole, 50c.; per doz, $5.50.
Yoke-tips, ext. plated, $1.50 pair.

TO READERS AND CORRESPONDENTS.

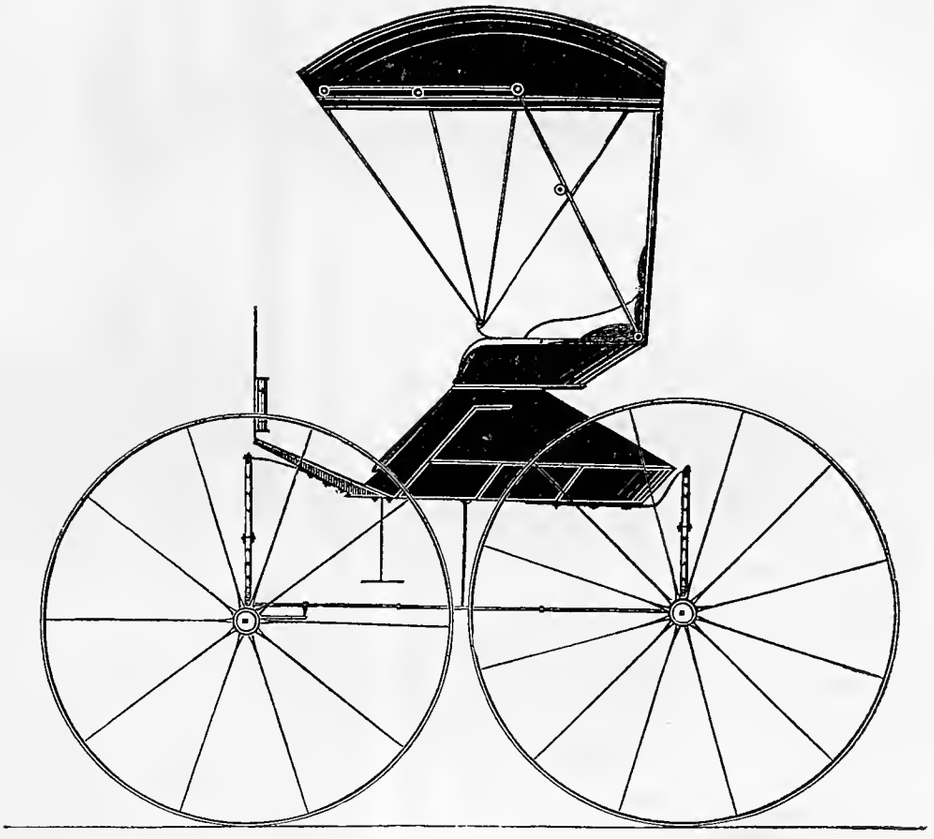
H. H. OF IND.—We have no chart expressly devoted to platform work. Those we have published heretofore, have been of a variety calculated to meet the wants of the public generally. ....F. T. OF PA.—We appreciate your complimentary remarks in relation to the Magazine, and hope to have your continued patronage.....B. C. OF C. W.—All subscribers in Canada are expected to send with their subscriptions 25 cents extra, to prepay the U. S. yearly postage.....J. E. M. OF WIS.—The delay in sending the Magazine, is all due to neglect in delivering your letter by the Express Co.....F. H. OF C.—Any back volume of this work and the numbers can still be had at published rates.



EXTENSION-TOP PHAETON.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 117.



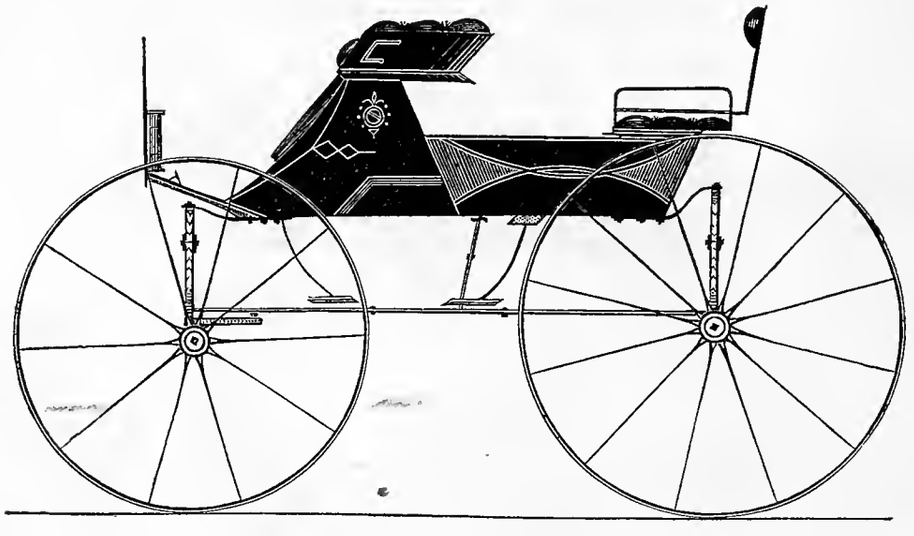
EXCELSIOR-TOP BUGGY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 117.

E. M. S.—ORIGINAL MONOGRAM.

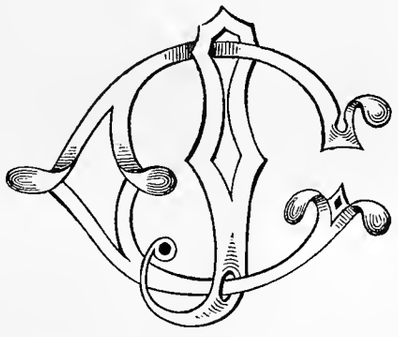
Explained on page 120.



TURN-OVER SEAT PHAETON.—½ IN. SCALE.

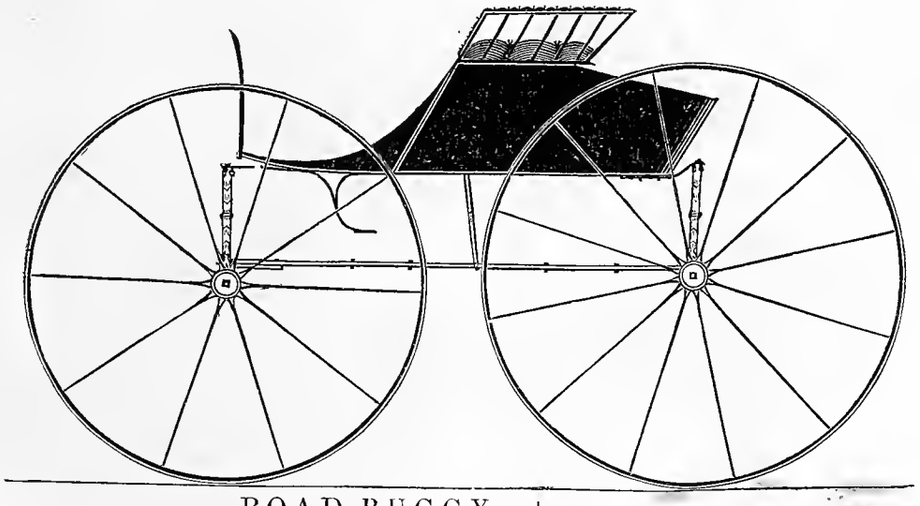
Designed expressly for the New York Coach-maker's Magazine.

Explained on page 117.



J. C.—ORIGINAL MONOGRAM.

See remarks on page 120.



ROAD BUGGY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 117.

THE NEW YORK
COACH-MAKER'S MAGAZINE

DEVOTED TO THE LITERARY, SOCIAL, AND MECHANICAL INTERESTS OF THE CRAFT.

Vol. X. NEW YORK, JANUARY, 1869. No. 8.

Mechanical Literature.

REVIEW OF CARRIAGE MAKING IN PARIS.—HAVRE EXPOSITION.

The following article has been translated for The New York Coach-maker's Magazine from portions of two editorials in "*Le Guide du Carrossier*," for August and October. It will be read with interest by our patrons.

Our readers are aware that tourists consider Havre as one of the suburbs of Paris. Accordingly, by analogy, and more by reason, this Exposition will perhaps be regarded as a sequel of the Great Exhibition they visited at Champ de Mars, la t year.

We pass over the various things exhibited—the porcelain of Sevres, the tapestries of Gobelins,—and pass at once to the carriage galleries. Of the forty-two exhibited, twenty-one belong to the coach-makers of our capital and are signed, Millon, Guiet, Kellner, Bouillon, Lelo rieux, Henocque, Morel-Thibault, Rotschild, Mazucchelli, Audinea and Heuning. The others are signed, Delasalle, Hayot de Caen, Seacher of Rouen, Jiolle, Paris of Havre, Retif of Lancoirs. There are ten coupés, eight phaetons, five landaus, four milords, two omnibusses, and a dozen of smaller calibre.

We are not well informed as to the real design of this exhibition. Is it only a plan for the purpose of advertising wares? Is it also for co-operation? It has been hinted, although we do not affirm it, that it is for the purpose of distributing medals. This would be, perhaps, the only lucrative side of the exhibition, for, regarded as an advertising agency, it lacked one essential thing—visitors.

Fortunately, in the meantime, all Paris, so said, is upon the shore of the Channel, but it would appear that the fashionables must have been saturated with the Exposition of 1867, for, instead of visiting that at Havre, they have kept themselves at Trouville, where they play the role of Tritons and Naiades. (It is so warm!)

Therefore we will not here recount the whisperings of amateurs, since they are, probably, unreliable. We owe it to ourselves to appeal to our own personal judgment, and here is something of what we noticed:

The carriages generally were well manufactured, and evidently had not been brought thither for the land of Caux.

Prominent among them is a carriage by MM. Lelorieux Brothers, which would be much better exhibited at Montevideo than at Havre: it is a landau with five windows framed in iron, plated and ornamented, making it specially fitted for exportation.

Parisian carriages have a good reputation and well deserve it abroad. Contrary to the majority of manufacturers, where the name only indicates a mediocre production, they show as much care in their construction and perhaps more in the choice of material for the carriages to be exported than for those to be used in the interior.

We have noticed particularly a kind of phaeton in white mountings with crossbeam and two transverse C-springs *a l'Americaine*, which we suppose came from New York; but it bore the name of Jiolle, carriage-maker, of Havre, and was beautifully made in his shops.

If our dear readers desire more knowledge of this exhibition, they should visit it; they would see beautiful models, painting and garniture of taste,—but any description here is useless. Moreover, the object of our visit to the exhibition was not to analyze the works in detail, but to gather some new ideas of fashionable modes. We have seen one little carriage mentioned in high terms, which we will publish in our next issue.

....A production in coach-making and which for some time has been prodigiously popular among young men from a dozen to twenty years of age, is the two-wheeled velocipede. The immense success of the velocipede is due to M. Michaud, manufacturer, at Paris, who proposes to furnish one to each rural letter carrier, to each rural policeman, to each cure (preacher), and each physician in small towns.

The Exposition at Havre has come to an end, and from what we gather from all parts, it has ended much better than its opening promised. The visitors, who were very rare at first, increased so, in point of numbers, that the exhibition, which at first was pronounced a failure, became before its close quite lucrative to the exposants. Almost all the coach-makers there transacted considerable business and do not seem to regret having taken part in the competition.

Competition there was, since they granted awards, as we noticed in our last number. The committee was appointed

by the exhibitors, there being five, of whom two were coach-makers, MM. Bainé of Paris and Bellavette of the house of Boulogne. The following is the list of awards we gave after due deliberation: Gold Medalions, M.M. Bouillon, Lelorieux Frères (Brothers); Silver Medallions, Kellner, Millon et Guiet, Rotschild, Jiolle, Delasalle, Seacher; Bronze Medallions, Mazucchelli, Hayot, Morel-Thibault, Andinea, Henning; Honorable Mention, Henocque, Rossignol, Roberts.

Some of the coach-maker exhibitors have exhibited their surprise, and we also share in it, at not seeing the name of M. Paris, coach-maker at Havre, upon this list.

Paris, at this season, is still unfrequented with equipages; consequently our harvest from this desert is trifling. The autumn drives are bereft of powdered coachmen, even to the woods of Bologne. Three-fourths of the rostrums were vacant, not a mail coach upon the turf, although the October weather was fine. The resorts formerly considered *au fait* around the centres of poultry stalls and flower girls.

In the midst of this desert one finds, nevertheless, now and then, an oasis. At the last courses at Longchamps, we noticed a small, open one-horse carriage, basket-shape vis-a-vis, in which panels or slides take the place of glass in the doors, which one can raise and replace in a till or coffer, when he uncovers the carriage. This work, which is from one of the oldest Parisian houses, combines several advantages perfectly understood in relation to lightness of build and construction.

The small, open carriages are, moreover, the order of the day at Paris; several builders naturally take great care in their construction and seek to make them attractive to their patrons.

This year, the form of the coupés has not undergone much change. Some makers who had adopted lines almost straight have returned to the most ancient form—ssuch shapes as we published three years ago. Fashion, however, is not absolute; each great house has its own models for coupés, of which the shapes vary in a small degree.

Of course it is well understood that coupés are made of various sizes. Some are made square, one meter in length and the same in width. The medium dimensions, and which we prefer, are from 1 meter 8. or 1 meter 10. in length, to 1 meter 25. or 1 meter 30. in width. The dimensions of carriages vary quite as much to meet the demands of necessity as of fashion. A coupé of one meter in length is not convenient for a great lady of St. Petersburg or Moscow; it would take too much care and time to get into it, especially where the thermometer ranges twenty degrees below zero. There, in the rigorous season ladies go to and return in them from soireés, and, muffling themselves in great wrappers, take all possible precaution not to soil or disarrange their toilette. They enter their carriages under a carriage gateway. Hence the need of spacious bodies. The coupé should be at least 1.25 meters in length, and doors from 60 to 65 centimeters wide.

We are often asked which of the two modes of suspension is preferable for the back part of a carriage; two springs *a pincette*, or five transverse springs, and if the latter bear more weight than the half (*pincette*) springs attached to the beam.

We shall treat the subject of suspension very soon in a special chapter; but in order to respond immediately to the requests which come to us from different sources, notice how we determine the proportion of weight which is given to each spring. We consider the axletree as a point of support, and the springs of the axletree as levers of which the two arms are usually equal. In this case the weight supported by the rear part is equally distributed; half upon the transverse springs and half upon the demi (half) springs. It follows from this that in a suspension of five springs the beam bears half the weight, and the support of the transverse springs, the other half. In a suspension *a pincettes*, the beam bears all the weight, distributed upon the rear portion of the carriage.

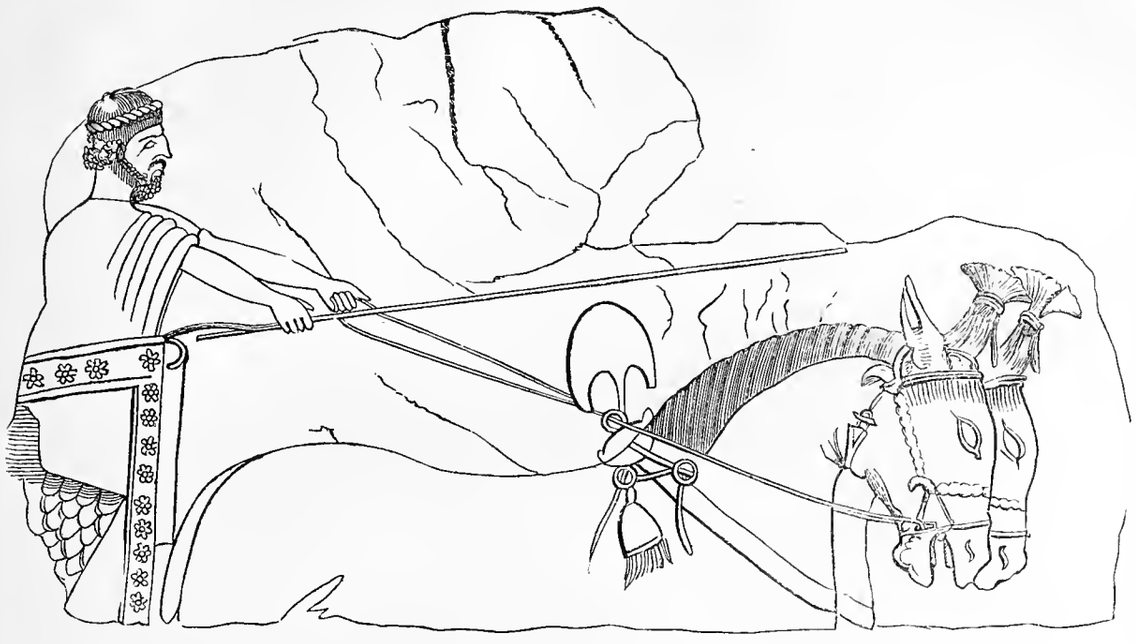
The theory of the lever is rigorously applied in the case in question, although we shall enlarge upon it but little. If, in lieu of placing the axletree in the centre of the springs, we place it nearer the transverse springs for example, then the springs of the axletree would be divided in two unequal parts, of which the springs of the rear half would be longer than those of the front. In this case the transverse springs would bear two-thirds of the whole weight.

OUR PERSIAN CARRIAGE MUSEUM.—II.

On page 19, volume VIII. of this Magazine, we presented the reader with a drawing of a supposed idol car found among the ruins of Persepolis. The car is evidently the production of oriental art, and probably a waif from classic Greece. A comparison of Grecian and Persian workmanship as seen in these relics of the two countries, may prove interesting.

The engraving accompanying this article gives a much improved figure of the Persian chariot, and is evidently of a later date than that on page 100 of this volume. In many respects it resembles the fragmentary chariot published on page 5, volume VIII. That the bas-relief under consideration is Persian, is proved by the head dress of the charioteer, and the trappings of the horses; but, had we a perfect copy of the original, it would be more satisfactory to the antiquarian. Such, however, was the complete destruction of Persepolis, by Alexander, three hundred years before Christ, that we despair of gleaning much in that field of research, at this late day. We shall therefore finish what we have to say about Persian chariots armed with scythes, from the histories of Arrian and Curtius.

Scythe chariots have been credited to the Persians by all historians who have examined the subject. Whether true or false, Curtius tells us that in the battle between Alexander and Darius, there were no less than fifty chariots armed with them, attached to the army of the Arachosians, besides which Phradates led a powerful body of Caspians, supported by fifty war chariots, and with levies from among the Armenians, Cadusians, Cappadocians, Syrians, and Medes, were fifty more. Curtius, who describes this battle says: "Of chariots armed with scythes, there were two hundred, the grand dependence of the Babylonians, as they imagine that such machines strike an enemy with panic. Each was drawn by four horses abreast. The four poles [one between each horse] were armed in front with projecting iron spears; the transverse beam—in position, the splinter bar of modern carriages, but massive—to which the horses were yoked, carried at either end three swords. To the spokes (hubs?) of the wheels, shorter blades were latterly appended, and to the felloes were fastened others. Other scythes



FRAGMENT OF A BAS-RELIEF FROM THE RUINS OF PERSEPOLIS.

pointed [from the axletree] toward the ground, to mow in pieces everything in the way of the precipitated car." (*Quin. Curtius*, book iv, chap. 9.) Arrian reduces Curtius' two hundred scythe chariots down to one hundred, which smaller number Brooke endeavors to maintain in a comment upon the passage.

Curtius' description of scythe chariots has been severely commented upon by later historians. Among these is Mr. Le Clerc, whose criticism is prefixed to Rooke's translation of "Arrian's History of Alexander's Expedition." We are told—although it does not appear in the above translation—"in Curtius' description of the hooked chariots which the Persians used, that at the end of the pole, long spears were fixed, pointing forward; and on each side, from the body of the chariot, three swords were placed. This is not difficult to be understood, but what follows would be extremely difficult, if not altogether unintelligible, unless we depart from the propriety of the words, and understand not so much what Curtius said, as what he would have said." And among the spokes of the wheels more spears stand forth, directed right forward; some scythes were fixed aloft to the highest part of the circumference of the wheels, and others below, toward the earth, to cut in pieces whoever lay prostrate, or fell in their way.

"Among the spokes of the wheels, properly speaking," continues our critic, "nothing could stand forth, which would not stop the motion of the chariot. Besides, what means he by right forward? Can spears stand forth and not point right forward? Then what are the highest parts of the circumference of the wheels? Are they not the ring [felloes] or rounding; there is neither higher nor lower part while the wheel is in motion, because every part thereof is highest and lowest by turns. Curtius understood it thus, as appears by what follows: 'And others fixed below, toward the earth!' How could scythes be fixed at the lowest extremity of the ring [felloe] of the charriot which would not hinder its motion? John Scheffer (*De re Vehiculari*, lib. xi, cap. 15), judged rightly, that this description was very much entangled, and imperfect; and so it was deemed by Godesc Stevechius, and Matthæus Raderus, insomuch that neither of them durst venture to take a draft from it.

"But wherever Curtius had this description of a hooked chariot, he seemed not to have understood his author, from whence he took it. He ought not to have said that the scythes stood forth from among the spokes, but from the nave of the wheel; then, that two scythes stood forth from the end of the axletree, one right forward, about the length of the axletree itself, the other transverse and pointed towards the ground. The scythes and spears thus standing forth from the wheels or axletree, and that bent downward from the axletree, were not only designed to cut and tear in pieces all who stood in their way, but also to destroy all those who happened either to be thrown down by the horses, or the tumult and hurry of the people, and lay not far distant."

VELOCIPEDES.

TRANSLATED FROM "LE GUIDE DU CARROSSIER," FOR THIS MAGAZINE.

Every day we receive applications for information in regard to the construction of velocipedes, their value, cost, etc., so that we have finally concluded to publish a model.

Velocipede (Latin etymology, *velox*, prompt, rapid; *péde, pedis, pieds, i. e.*, moved by the feet) comes from a root a little metaphorical, if one compares this kind of vehicle with the other modes of actual locomotion. But we will pass the name, more or less pompous, and look at the qualities of this novel intrusion.

Of all the velocipedes of two, three, or four wheels, those of two are the most practicable on account of nimbleness. The only service to which it may be utilized, is to transport its rider, who is at the same time its propeller, from one place to another with a rapidity which can attain to twenty kilometres per hour. The management of the velocipede procures, also, to the rider an exercise at once gymnastic as well as hygienic.

M. Michaud has published a pamphlet which is very comprehensive, on this subject. As to its objections, some one has said, that in ascending a hill, one would have to carry it on his back; but M. Michaud affirms that it can be made serviceable as a baton or cane. We remem-

ber seeing a nautical velocipede upon one of the lakes of Bois de Boulogne, which performed very well.

The price of a well constructed velocipede in Paris, is 250 francs.

Home Circle.

ADVENT OF THE YEAR.

BY CARRIE M. WHITNEY.

THE moments were flying, and, bound in a spell,
We waited in silence the stroke of the bell
That should toll for a death and ring out for a birth:
One tuned to regrets—and one echoing to mirth.

The winds were abroad with their whisperings of awe,
Having stilled, for a season, their tumult and war
As the dying old monarch breathed out his last sigh,
And turned on his watchers his fast glazing eye.

* * * * * * * * * *

But hush! there's a quiver, a gasp, and a breath;
A fresh life is born from thy ashes, O Death!—
A beautiful child crowned with longing and hopes
The door of the future with joyousness opes.

There's a thrill of delight—a resolve of reform—
As we clasp the bright being, so healthy and warm,
While a thank-laden prayer to the Father of Light,
Floats up on the air of the winter midnight.

Revel on, ye wild winds! ring for joy, ye glad bells!
E'en in old Father *Time* a new energy dwells,
And mortals have caught up the quickening fire
As it waves on in gladness still higher and higher.

The *New Year* has step'd o'er the threshold of time,
With a chart—mapped thereon, every noble design—
And happy for us, if we follow aright
The way we find marked—through one year from to-night.

SOUTH ADAMS, Mass.

HISTORIC TREES.

BY CARRIE A. MCALLISTER.

IT may be thought by some, that this subject is not worthy a place in history; that to devote time and thought to inanimate objects like these is encroaching upon the rights of greater things that would tend to benefit mankind and exert an influence for good which might be more easily discerned. Yet a majestic tree is always a prominent feature in the visage of nature; its strength, grandeur, and beauty, call forth admiration from all. Not only are trees objects to be admired and to be enjoyed, but they afford us lessons invaluable. Hours spent in discourse would not effect or achieve that which might be learned in quiet meditation with but a tree as an instructor. A devoted student of nature may discover sublime truths, from a half hour's study in a single twig or leaf of a tree. But, alas! we are not all able like Shakespeare to find "Sermons in stones and books in running brooks." So taking the *tree* in itself, we find it worthy of time and study; but there are som · trees connected with the history of our country politically and otherwise, that have performed duties and taken a prominent part, in the affairs of the State—these merit our attention more particularly, and it is to these we turn.

The grand old "*Stuyvesant Pear Tree*" which has stood the varied seasons of two centuries or more (and which, though fallen, sprouts again, promising another such tree, to keep green and alive the memory of the planter, and his posterity), will be sooner recognized than any other I might mention. Planted by Gov. Petrus Stuyvesant upon his landing in this country, it has proved a landmark, respected and revered for ages, and typical of the people it represents. They have grown strong in wealth and numbers, and have spread civilization even as the branches of the tree spread themselves. This tree connects us with our Dutch ancestors, and is their memorial among us.

Another great historic tree is *Penn's Elm.* It is intimately connected with the settlement of a sister State and the introduction of the Quaker portion of the community. This elm formed the canopy under which at Shackamaxon, on the banks of the Delaware, in 1682, the famous treaty with the Indians was made for that tract of country now known as Pennsylvania, and also a treaty was formed with the Quakers, of peace and friendship. Voltaire says that it was the only treaty "never sworn to and never broken."

Again, the "Charter Oak" of Hartford is intimately associated with the English Revolution of 1688, and with the spirit of liberty in the New England colonies. It faithfully concealed the charter of Connecticut, from the tyranny of one who was disposed to render himself as despotic in America as his royal master was in England. The news of the Revolution in England was received here with ecstacy, and regarded as an event that brought deliverance from despotism to America as well as to Great Britain. Liberty and law have since gone hand in hand, each sustaining the other, and mutually imparting a portion of their spirit. This event planted the seeds of the American Revolution.

The history of the "Charter Oak" shows how highly the people of the colonies appreciated and prized their liberties. The spirit that in 1687 so earnestly opposed the encroachments of Sir Edmund Andros and the king, was the same that a century later broke forth throughout all our land and gave us *Independence.*

The "Old Boston Elm," on the Common, was connected with the American Revolution itself, and marks the most important era in our national history. Before the outbreak of the Revolution, when the popular spirit of dissatisfaction with the home government began to find voice, this noble tree was chosen by the patriots as a place to gather for conversation, and to post notices full of "those burning words which tyrants quake to hear." The spirit of 1687 in the colonies had "grown with their growth, and strengthened with their strength." And now the crisis was at hand, when, in the words of America's second Washington, "Our fathers brought forth upon this continent a new nation baptized in liberty and consecrated to the idea," that all men are created equal.

Of these four historic trees this one alone remains. What son or daughter of America can look but with awe and reverence upon this tower of greatness, proudly eminent, when associated as it must naturally be with this glorious era of our history. We talk of the *dead past*, when in reality, we are living in the continued existence of the *Past* which gives us life and vitality in the present. What are the events that are now absorbing the public mind, in comparison with those that gave birth to our country and its liberty? These modern improvements

and new inventions, are not to be scorned, but the great early events should occupy our thoughts and attention now, and a due appreciation of the memorials they have left, would be much to our advantage; it would soften partisan strife and quell the outbursts of rivalry; the tide of selfishness might be turned back, and personal interest lose foothold.

A purer interest in the welfare of the country, would be promoted by the suggestions thrown out by these noble memorials of the wisdom and valor of our forefathers.

Pen Illustrations of the Drafts.

EXTENSION-TOP PHAETON.

Illustrated on Plate XXIX.

This phaeton is from an original design furnished by one of the artists regularly employed on this Magazine. It favorably represents a style of vehicle very well calculated for an airing in our Central Park, or any other locality, in fine weather. We think the better way to construct this body would be to make it "solid;" that is, to work the back quarter out of a thick piece of whitewood and screw it from the inside upon an ash plank rocker one and a half inches in thickness. A job of this kind requires a very heavy rocker plate not less than two and a half inches wide and a half inch in thickness, to render it strong enough to support the weight and strain to which it will in use be subjected. The great fault with many of our handsomest carriages is, the rocker plate is too light, and, as a consequence, the doors never work well. This trouble, one of the most trying to a customer, may be avoided by proper forethought.

EXCELSIOR TOP BUGGY.

Illustrated on Plate XXX.

This drawing is from a different artist than the one illustrated on Plate XXX, to which it is similar. It represents some of the latest fashionable points in buggy building in this city, and makes a very pretty thing when handsomely finished. We prefer blue cloth linings to all other. The wheels, in this instance, are 3 feet 11 inches and 4 feet 1 inch high; hubs, $4\frac{3}{4}$ by $6\frac{1}{2}$ inches; spokes, 1 inch; rims, $1\frac{1}{8}$ inches deep; tires, $\frac{1}{8}$ by 1 inch, tire steel. Price of the buggy in New York (city-made), is $450 to $475.

TURN-OVER-SEAT PHAETON.

Illustrated on Plate XXXI.

In constructing this phaeton two plans may be adopted, each having its advantages. In both cases a plank rocker or side will be required; say ash or cherry, one inch in thickness. In one case the back half of the side elevation may be "set off" by painting, as in our example; in the other a small "swell" may be given to it by supplementing a piece of one-inch whitewood *rounded off* and glued fast.

Apropos of gluing. This process among carriage-makers is, as a general rule, too carelessly done. Some of our fellow craftsmen would be benefited by taking lessons from their neighbors, the cabinet-makers. These never put work together cold. Where practicable they use a hot caul; where not, they always heat the surface of the wood to be joined before applying the glue. A panel in cold weather is sure to chill the glue, and prevent its usefulnss, unless warmed by the stove.

ROAD BUGGY.

Illustrated on Plate XXXII.

Our engraving, in this instance, is from the pencil of an artist in the Brewster & Co.'s establishment, on Fifth Avenue, designed expressly for this Magazine. You will perceive that it is rather a plain-looking vehicle, just the thing for a very neat and tasty customer, of which there are many in all our larger cities, as well as New York. The seat, though open, we are told is likely to come in fashion again, the coming spring season. The front pillar is formed by a strip of one-quarter-inch half-rounded moulding. This sham front pillar may be "set off" with good effect by painting it of a darker shade than the hinder portion of the side panel. Try it.

Sparks from the Anvil.

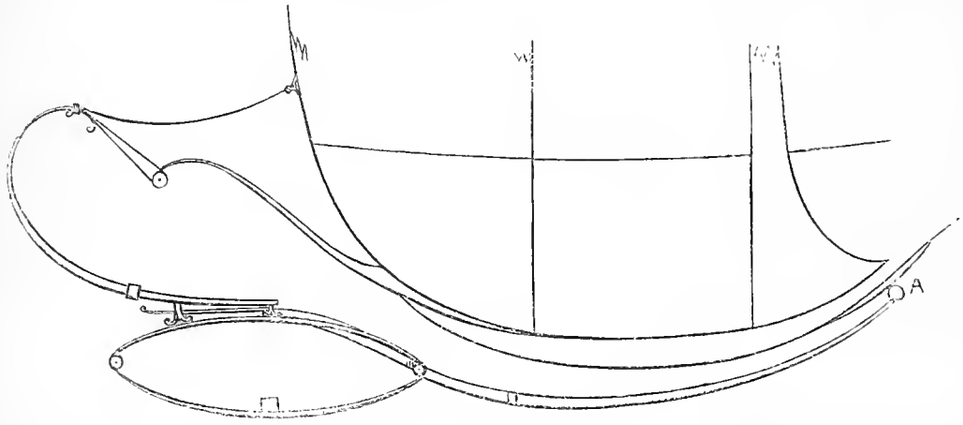
HAMMERS AND HAMMERINGS.

The hammer among all civilized nations is the universal emblem of mechanical art. With it is associated the brawny arm of some muscular son of Vulcan, with sleeve rolled up, the more expressively to represent strength and power. From the hammer *is born* the wealth of the civilized world. By it is forged the ponderous engine and the tiny needle! The music of its operations is more enchanting than the sounds of the harp or the thrummings of the piano, since by it are supplied bread, contentment, and wealth! Its merry click speaks in language unmistakeable; its tones signify industry.

Not a ship is launched, not a house erected, nor a carriage built without the aid of the hammer. Without it civilization would sink into barbarism, and the human family become as defenceless as the brute creation. Even the sword cannot be beaten into a ploughshare, nor the spear into a pruning hook, without its aid. From it emanate wealth, honor and true glory. Has not the mechanic then greatest reason to be proud of, and to rejoice in, the musical soundings of his useful hammer, since it brings him food, raiment, and all other comforts? The proud and lazy may turn up their noses in scorn and contempt at the mechanic, but without him and his hammer —the peer of the tribe—they would soon sink into beggary and ruin!

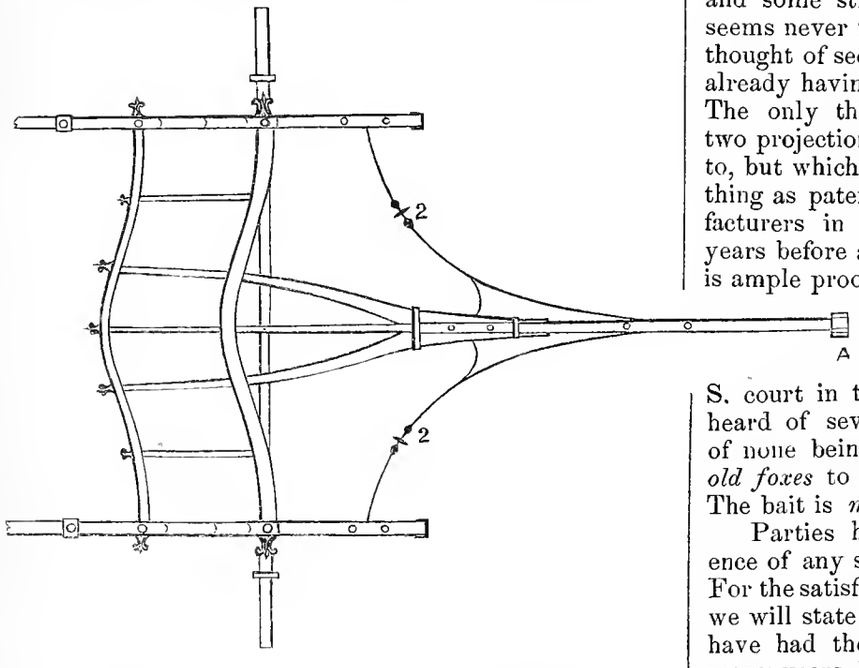
HALF PERCH WITH COMBINATION SPRINGS.

THERE are some portions of the under carriage to vehicles so very simple that almost any novice may construct one with little trouble. There are some other portions more complicated, and these require some study and much practical effort to carry out the construction effectually. Of the latter character is the plan for the half perch and combination springs of coaches, barouches, clarences, &c., now under consideration.



SECTIONAL SIDE VIEW OF CLARENCE WITH HALF PERCH.

The first diagram exhibits a side view of a body with the half perch in combination with elliptical and mock C springs—this last composed of wood and iron, as described on page 88 of this volume—the front end of which half perch is secured to the body at A by a rigid knuckle joint, there being no play required in its action. The letter A in both diagrams points out the location of the knuckle.



BIRD'S EYE VIEW OF THE HALF PERCH AND ITS FIXTURES.

The second diagramre presents the first in a ground plan showing the iron stays (2, 2) which connecting with the perch extend to and are bolted on to the mock springs. The C springs and body hoops require about the same calculation as a carriage with the regular C spring and combination bars. The advantages of half perches are, that such ride much easier than any other; greater benefit being derived fromthe C springs in consequence of the combination.

STILL MORE OF THE CLIP KING-BOLT.

WE had hoped that the clip king-bolt affair had been settled for all time, when we published the history of the thing, as sent us from the Patent Office in 1867, which appeared in the March number of this Magazine for that year, but it seems we were mistaken, as indicated in the following letter to us:

MR. E. M. STRATTON.—*Dear Sir:* Can patent fees be collected of those who use the ordinary clip king-bolt? I am threatened with prosecution by certain parties who claim it to be an infringement upon a certain Phelps patent. The clip king-bolt which I use has been in common use for quite a number of years by all the carriage-makers of my acquaintance, and I cannot see the justice of springing such a trap, as this at this late day. Your knowledge of these matters must render your opinion valuable. L. G. P.

Our correspondent and others interested will do well to look at the article on this subject on page 56 of this volume. The original clip king-bolt was invented by Uel Reynolds of this city more than twelve years ago (about 1855), say ten years previous to the date of the Phelps patent, but was never patented. When we sent it abroad, and some stir was made about it, Mr. Reynolds, who seems never to have been aware of its value before, then thought of securing a patent, but found it was too late, it already having been in common use two years and more. The only thing covered by the Phelps patent are the two projections B B, shown on page 56, before referred to, but which we consider no improvement. Even the thing as patented by Phelps, was used by several manufacturers in New York City and *abandoned* as useless, years before any patent was obtained on it. Of this there is ample proof by producing the old buggies, made with projections anterior to the date of the Phelps patent. We do not believe the validity of the patent could be established in any U. S. court in the land, if properly contested. We have heard of several *threats* of suing for infringements, but of none being carried out thus far. So we would advise *old foxes* to beware of the *springing* of any such trap. The bait is *musty*, and the hunters on the wrong scent.

Parties have even gone so far as to deny the existence of any such person as Uel Reynolds, in this city. For the satisfaction of those to whom such a story is told, we will state that his address is 182 Suffolk street. We have had the personal acquaintance of the gentleman many years, he having formerly carried on the carriage-making business, in connection with a livery stable. Besides this clip king-bolt, he is the ingenious inventor of many other useful things about the carriage, chiefly invented since. The chief regret in this case is that he did not patent it himself from the start, and so reap the benefit, thus cutting off others less worthy from the harvests they are now trying to gather.

Paint Room.

DIFFICULTIES IN CARRIAGE PAINTING.—II.

BY J. S. LEGGETT.

If carriage painting had reached perfection, then would it be useless for me to weary your patience by writing upon this subject, but as there is yet ample room for improvement I will still continue to press upon the minds of those interested the necessity of advancement in this art, at the same time hoping to throw some light upon the subject, or make some suggestions of such a practical character that the reader may receive some benefit hereafter. In a previous number of this Magazine I endeavored to point you to the cause of so much unsubstantial painting, and I will not leave the subject until I have made some further remarks.

If it is necessary to lay out the great amount of labor we do, on a carriage, to make a complete finish, it is also necessary that the job should retain that finish, or at least the surface, so that it may be brought back by revarnishing without removing all of the paint and doing the work over again. What is so provoking to the finisher when he looks upon a job he has varnished with care, hoping to please the eye of all beholders, as to find, after the vehicle has been standing for some time, that it has ceased to retain its beautiful appearance, and all through the fault of preparing some of the under-coats; consequently his labor has been in vain.

Some mix the paints to dry quickly, and when the work is not in a hurry they give each coat the more time to dry, supposing they are going to have the most durable job by so doing. This is a wrong idea in one sense, for if you have made your paint to dry in ten hours, it is just as well for you to apply the second coat at the expiration of that time as to let it remain two weeks. If your time is not limited and you are going to give a coat of paint five or six days to dry, make it dry hard in that time, but not before. By so doing you have used sufficient oil to make your work stand the test of both climate and weather.

Some painting looks well enough through the warm season of the year, or as long as it remains in a warm room, but when exposed to the extreme cold will lose its beauty of finish by cracking. Do not think I am recommending the use of large quantities of oil—it is good in its place, but not out of place. While the priming coat requires to be made from pure white lead mixed with raw linseed oil only, some colors require scarcely none at all. Some of the best shops in the city use no oil in black, they prepare it with japan with the exception of turpentine. My experience has taught me to use nearly one-third the quantity of oil that I do japan. If the latter is a good article it will dry hard in a short time.

If you have not a desirable surface previous to coloring the body, after it has been rubbed down, the best way I know of is to give it a facing coat, made from dry white lead, a little lamp black, and hard rubbing varnish, with oil sufficient to make it elastic, add turpentine to thin and apply to the body; when dry, rub smooth with lump pumice.

With the foregoing remarks I will leave the subject for your consideration. Should any receive benefit from any idea I have advanced, then perhaps you will prove my assertions correct.

MANUFACTURE OF WHITE LEAD.—NEW PROCESSES.

The adulteration of white lead with sulphate of baryta has become so common that it is one of the regular steps in its preparation in all factories. The pure white lead of the most finely ground quality is called "Silver White;" when mixed with equal parts finely ground sulphate of baryta it is called on the European continent, "Venice White." When adulterated with double its weight of sulphate of baryta it is known as "Hamburg White;" and even three parts of the baryta and more to one of lead are frequently used. This adulteration is not entirely a deterioration, and many of these adulterated qualities are preferred for certain purposes to the pure article.

There exists another kind of white lead, called "Kremner White," which owes its pure white color to the original purity of the lead employed (which is free from silver and iron), and the carefulness of the method of manufacture, clearing it from all powdered metallic lead or sulphuret, which, especially the last, even in thes mallest quantities, injure many other qualities of white lead.

The method described on page 298 is usually called the Dutch process, and being very injurious to the workmen has in certain localities been superseded by the so called French process, of which Thenard first established the principle. It consists in making a solution of soluble salt of lead, and by passing carbonic acid gas through it the lead is precipitated as a carbonate. This process may be executed on a very small as well as on a large scale, and requires the following steps: First, a saturated solution of acetate of lead (lead sugar) is made, either by dissolving this salt in water, or by heating metallic lead with pure vinegar; this solution is boiled with oxide of lead (litharge) till it cannot dissolve any more of it; one part of strong wood vinegar (pyroligneous acid) will dissolve a little less than one part of litharge (oxide of lead) and form a neutral acetate, when dissolving twice that quantity of litharge in it (correctly 60 parts of acetic acid to 112 of litharge, one atom of each) we obtain a so called subacetate, a basic solution, which colors litmus paper blue, and when dissolving three times the amount of litharge the solution is saturated, and the excess of lead above the neutral solution will be readily precipitated as carbonate of lead by passing carbonic acid gas through the solution, till the solution becomes neutral again, or even acid.

This carbonic acid gas may be obtained by the action of sulphuric acid and water on chalk or marble, as is done in the preparation of the so called soda water, or it may be obtained from the combustion of charcoal, but in this case it must be purified, chiefly from sulphur vapors, as these color lead black, and consequently make the precipitate very dirty looking. The best way is to pass the gas resulting from combustion first through a separate solution of lead, before passing it into the receptacle from which the white lead is to be precipitated. As soon as this precipitation is completed the liquid is left to settle, the supernatant neutral acetate of lead solution is

decanted off and boiled with another dose of litharge; thus a limited amount of acetate could be used for an indefinite period, if there were not unavoidable losses during the process, which have to be supplied from time to time with fresh acetic acid. It is clear that during this method of operation, the white lead being obtained from the first in a wet condition, the workmen are not exposed to the poisonous dust, as is the case in the old process described on page 298.

Several modifications of this French process have been proposed; for instance, Button and Dyer make a solution of litharge in nitric acid, and precipitate with carbonic acid obtained from the combustion of coke. Richardson uses sulphuric acid to precipitate the solution of acetate of lead, and thus forms not a carbonate but a sulphate of lead; and Leigh precipitates a carbonate from a solution of the chloride of the metal by means of carbonate of ammonia, which is only a more expensive way of operating without compensating benefit. Pattinson has a similar method, but precipitates the white lead by means of a solution of carbonate of magnesia in carbonic acid water, which solution he obtains from the mineral hydrate of magnesia, or from magnesia limestone; the solution he uses contains chloride of lead, and he treats the precipitate with caustic potash or soda and he asserts that in this way his white lead becomes equal to the best known.

A method was recently patented in England and the United States to simply use an impure ore of lead of such a kind as is soluble in acetic acid, boil it with the acid, decant and filter the solution till clear, and then precipitate with carbonic acid. A common lead ore of this class is a mineral carbonate of lead of a reddish brown or gray color, it is abundantly found in England, but when introducing this method in the United States a great drawback was found to consist in the fact that not such a lead ore had been found here. Fortunately railroad cuttings in Missouri quite recently brought to light large deposits of this mineral, which are now being used for the manufacture of lead, white lead, and other lead compounds.

Dr. Vander Weyde, of New York, recently patented an apparatus by which the wood vinegar necessary for the solution of this ore, could be distilled from the wood at the mine, and the residue of the distillation, the charcoal, while hot in the still, was converted into carbonic acid gas, by simply blowing a current of air through the still, as soon as the volatile products were driven off by the distillation; this carbonic acid gas, after passing through cooling and washing tubs, is used for the precipitation of the carbonate of lead, the whole process thus being accomplished in one apparatus and one operation.

By this process of using the lead ore, the labor of reduction to the metallic state is entirely saved, a labor required when following either the old or so called Dutch method, or when using the lead sugar, or when dissolving in acetic acid the litharge which is manufactured from the metallic lead.

Generally the white lead obtained after the French method by precipitation, has not the body, or else does not cover so well as that prepared after the old Dutch method; the cause is revealed by the microscope; the precipitated white lead consists of little semi-translucent crystals—the Dutch white lead—out of opaque white grains, but later improvements in the French method have overcome that difficulty to a great degree; they consist in preventing the formation of these small crystals by the use of nitric, sulphuric, and hydrochloric acids, and thus form a compound which consists not only chiefly of a carbonate, but also of a sulphate and chloride, which last two, by themselves, are inferior to the carbonate, but when combined in the formation of the precipitate, appear to improve the pure carbonate in a manner not yet precisely explained.

Chemical analysis has proved that the pure white lead manufactured after the Dutch process, is a compound of two atoms of carbonate of lead and one atom of hydrated oxide of lead, therefore is it probable that when the carbonate of lead obtained by precipitation after the French process was boiled with a sufficient quantity of a pure solution of subacetate of lead, it would take from this solution some hydrated oxide of lead, and become also a compound of carbonate and hydrated oxide of lead, and be as opaque and dense of body as the Kremner white. A hint worth trying.

Of course the white lead manufactured after the French method is also adulterated with sulphate of baryta in different proportions, and this will be the case till a method is found of making white lead directly from the ore, and as cheap as the baryta, in which case the adulteration would not pay any more and come to an end.—*Scientific American.*

ORIGINAL MONOGRAMS.

Illustrated on Plates XXXI and XXXII.

THESE monograms are a continuation of the original designs from our friend, Mr. J. S. Leggett. They will be followed by others hereafter.

Trimming Room.

PRESERVATION OF LEATHER.

A CONTRIBUTOR to the *Shoe and Leather Reporter* gives some valuable hints in relation to the preservation of leather. The extreme heat to which most men and women expose boots and shoes during winter, deprives leather of its vitality, rendering it liable to break and crack. Patent leather, particularly, is often destroyed in this manner. When leather becomes so warm as to give off the smell of leather it is singed. Next to the singeing caused by fire heat, is the heat and dampness caused by the covering of india-rubber. India-rubber shoes destroy the life of leather. The practice of washing harness in warm water and with soap is very damaging. If a coat of oil is put on immediately after washing the damage is repaired. No harness is ever so soiled that a damp sponge will not remove the dirt; but, even when the sponge is applied, it is useful to add a slight coat of oil by the use of another sponge. All varnishes, and all blacking containing the properties of varnish, should be avoided. Ignorant and indolent hostlers are apt to use such substances on their harness as will give the most immediate effect, and these, as a general thing, are most destructive to the leather. When harness loses its lustre and turns brown, which almost any leather will do after long exposure to the air, the harness should be given a new coat of grain black. Before using this grain black, the grain surface should be thoroughly washed with pot-

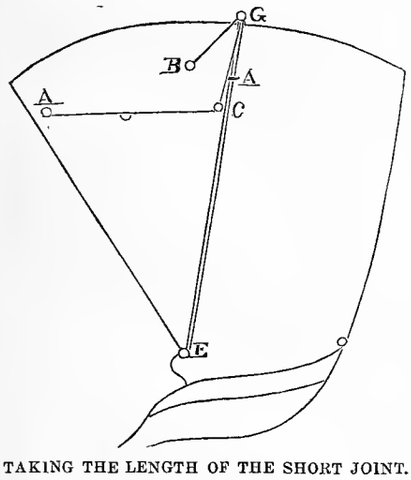
ash water until all the grease is killed, and after the application of the grain black, oil and tallow should be applied to the surface. This will not only "fasten" the color, but make the leather flexible. Harness which is grained can be cleaned with kerosene or spirits of turpentine, and no harm will result if the parts affected are washed and oiled immediately afterward. Shoe leather is generally abused. Persons know nothing or care less about the kind of material used than they do about the polish produced. Vitriol blacking is used until every particle of oil in the leather is destroyed. To remedy this abuse the leather should be washed once a month with warm water, and, when about half dry, a coat of oil and tallow should be applied, and the boots set aside for a day or two. This will renew the elasticity and life in the leather, and when thus used upper leather will seldom crack or break. When oil is applied to belting dry it does not spread uniformly, and does not incorporate itself with the fibre as when partly damped with water. The best way to oil a belt is to take it from the pulleys and immerse it in a warm solution of tallow and oil. After allowing it to remain a few moments the belt should be immersed in water heated to one hundred degrees and instantly removed. This will drive the oil and tallow all in, and at the same time properly temper the leather.

DRAFTING TOP JOINTS.

Since publishing the article on this subject in our November issue (page 90, of this volume), we have been favored with the following letter in further explanation:

Henderson, Ky., Nov. 29, 1868.

Mr. Editor: Since writing the article on the proper manner of obtaining the length of joints, and the points of the knuckles, I have been experimenting, and produced the result as shown in the accompanying diagram. Without repeating the whole of the former article, I shall merely endeavor to explain the manner of obtaining the point of the knuckle for the front joint, as the former article explained the mode of obtaining the back joint and knuckle.



TAKING THE LENGTH OF THE SHORT JOINT.

To begin, take the length of the joint on the straight-edge, which then transfer to the board, and mark thereon; next place one end of the straight edge on the finger iron E, marking the distance on the edge at A, and afterwards at B, marking the point on the leather with a piece of chalk,—for a four-bow top, four inches, and for a five-bow top, five inches,—in front of the middle prop C. Next, throw the straight-edge—which is one inch in width—in the rear of the prop iron C, and take a waxed thread the length of the front joint, and after placing one end at B, and the other on the center of the prop iron C, draw the thread on a line with the back edge of the straight-edge, and at point A you have the knuckle point. I believe I have explained the process with sufficient distinctness, when read in connection with the article published in the November number, to be understood, showing that all joints may be laid out with a straight-edge, without disturbing the top after being drawn on, on extension as well as buggy tops. J. B. Peck.

Editor's Work-bench.

MORE ABOUT VELOCIPEDES.

Velocipedes seem to be increasing in popularity among the people, and as a consequence the making of them has given employment to carriage-makers in some sections of the country. The prices charged for good two-wheeled machines are from $125 to $150. Although the last excitement in regard to them comes from Paris, a Connecticut journal tells us that sixty years ago John Cox, of Norwich, a common blacksmith of that village, made one in every respect like those introduced among us from abroad, in the use of which he became so expert as to completely astonish the good folks of his day by his dexterity in handling it:—going through the street at a high rate of speed, turning short corners and performing all the evolutions so much admired in the modern vehicle; and yet, its use died with him.

The new mania for using these rivals to slow coaches, has so much increased in New York City that a riding-school has been opened on Broadway, near Twenty-second street, for giving lessons in their use, which we understand is nightly crowded with pupils and their friends. Since many of our readers will be unable to avail themselves of the advantages of this school, and, if they could, would not go to the expense, we give a few lessons gratis, condensed from a London periodical:

Having purchased your vehicle—paying for it of course,—take it into the most level and smooth road you know of, and start off on a run beside it, with your hand resting on the top, to make yourself familiar with its movements, for a few minutes. After this remove it to a slope, and, mounting the machine, let it run down hill of its own accord, at the same time studying its effects and motion while balancing it. When you have familiarized yourself with this process, next place one foot on the pedal and follow its movement without lending it any assistance thereby. The beauty of the entire practice is in economizing physical force and muscular action. After this return to experimenting on level ground—this time with both feet on the pedals, working each alternately with scrupulous regularity. In this way speed is obtained. In the course of two or three hours' practice, a distance of thirty or forty yards may be run without upsetting, if care is maintained. Should the machine incline to one side, take the foot off the pedal on that side, and plant it

on *terra firma*. When you wish to come to a full stop, let the machine expend its force, take your feet from the pedals, let go of the handles, and place your feet simultaneously on the ground. For practice, a low-wheeled instrument is preferred to a high one.

A very interesting exhibition of velocipedes was recently given at the armory in Fourteenth street, New York, in the evening. These came from the workshops of four different manufacturers. Two of them were made after the French model, two-wheeled and very high, requiring the rider to jump on at starting. A lower one of American build seemed to be the favorite, however. A Frenchman present, although much practiced in the art, sprung his machine so as to render it useless for the remainder of the evening. Mr. Pickering, an American manufacturer, exhibited his proficiency by *cutting* the figure 8 while going around two chairs placed in a line two feet apart, on one of his own machines. Several races were run during the evening to the great amusement of the company, when, growing late, it was suggested that field manœuvres, by large bodies of troops, might successfully be performed on them. To prove the practicability of such an idea, a number of instruments were drawn up in line, and started off around the hall in splendid style. This ended the evening's entertainment.

We have had several inquiries about these machines, and their usefulness has been suggested for various purposes. One gentleman, in Ohio City, proposes to use one in delivering express parcels, another letters, &c. We have neither time nor inclination to reply to all, had we the information they seek from us, and must therefore decline with the simple remark that, in the present state of the question, the public is supposed to be as well posted in the practicability of velocipedes as we are. Meanwhile our readers are referred to an article on this subject, on another page of this number, translated from *Le Guide du Carrossier*, expressly for our Magazine.

WASTE THE BANE OF CARRIAGE-MAKING.

THERE is no mechanical business in which the sad consequences of waste are more seriously felt than in carriage-making. Even in ordinary times this was a matter of great importance, but since labor and material have doubled in cost it entails upon the manufacturer still greater loss. To prevent this, in large establishments, where much business is carried on, it pays to employ an overseer, whose special duty it is to see that his employer suffers no pecuniary loss from unnecessary waste while cutting up his timber, leather, &c.

Said one of the most successful manufacturers in this country, "My greatest enemy is waste." This "fatal destroyer" can only be overcome with thoughtful watchfulness and persevering care in turning to profitable account every item of material; whereby the paradox of manufacturing skill is reached—the best possible article at the smallest possible price. The genius of the human intellect is subordinated to the multiplication of time, labor, and material saving machinery. Circumstances have changed within a few years. Formerly it paid for the carriage manufacturer to dress out his spokes, to saw out his felloes and other "stuff," by hand. This is now all done away, and it would be thought a great waste of time to follow such a custom in our day. The man who is crazy enough to undertake such a task now, will find his balance sheet at the year's close in pitiful condition and himself hopelessly bankrupt in a few months. While he is thus wasting precious time, machinery, the great time-saving instrument, will be singing his business requiem-inviting his creditors to the funeral. It is only by systematic concentration of labor that money is now made in any mechanical business, and how few manufacturers are sensible of the fact.

REVIEW OF TRADE.

DURING the month past trade has been, to use a common expression, "awful dull," both in this city and elsewhere. The little work sold from the repositories has not been of the most remunerative kind, nor is there much present prospect of improvement in that direction. At this time of writing very little snow has fallen, not enough to make sleighing good; consequently sales of sleighs have been limited. This kind of trade, it is well known, is to a certain extent, relied upon to assist the coach-maker in meeting his paper falling due in midwinter. If this be unsuccessful, it has a tendency to dampen his ambition and increase his pecuniary troubles. If, on the other hand, he is able to dispose of his stock readily, he is correspondingly elated, and this serves to bridge over his sorrows and put him in good condition for a successful spring business. The stock of sleighs offered are mostly Portlands, some of them are very handsomely finished, both in painting and trimming. Plushes in almost every variety of pattern and quality are used, and we have seen them trimmed with *real* leopard skin. The cost of trimming a Portland with the genuine skin is about $55—not as expensive as one would think it to be. A Portland (if cane seat) can be "turned off" with simple oilcloth on the floor, without any other trimmings. To trim a cutter sleigh costs from $45 to $50; to trim a double one with plush, about $75. Portland sleighs are now selling in this city for $45 to $50—if city-made for $100 to $275; cutters for $150; combined Portland and Albany for $275, and double sleighs $400 to $500. These last prices were obtained in the manufactory of our friend R. M. Stivers, Esq., who probably makes and sells more sleighs than any other firm in New York city.

TEAPOT EXPLOSIONS.

Some people get wonderfully out of humor when reminded of their infirmities. Of this stamp is the *ci-devant* editor of *all* "the Internationals" on the continent, judging from the *furore* he indulges in, since reading our recent article under the head of "A Big Tempest in a Little Teapot." At the tail end of a long string of execrable English, and bad grammar *worthy* of a place in D'Israeli's Curiosities of Literature, he delivers himself of the following *pronunciamento:*

"Our financial record with the I. U. stands clear, and when called upon to give an account of our stewardship, we did *not* fail to do so satisfactorily to those whose business it was to investigate; and in taking possession of the *Journal*, we paid for it every dollar it was worth."

Now we are prepared to prove some of the foregoing assertions false, and he as well as many other union men know them to be so. The proper place for him, as secretary of the International Union, to report, was at the convention in Troy; but, instead of appearing in person, as duty required, he sent a letter excusing himself from attendance on account of the pressure of business. His "*purity* of motives," as shown in his books, was so transparent, that he lost caste with his employers, which continues to the present time, and all *his* attempts to deny the facts, will prove of no avail among those who are posted. This circumstance resulted, as has subsequently been seen, in starting the ex-organ off with a changed interlude for the amusement of those very employers whose funeral dirge he had been playing several years before. Purity of motives! If printing and editing a paper at the expense of an association, and then—when well established—taking it out of their hands and claiming it as private property, is "purity of motives," then is our cotemporary perfection itself. Out upon such hypocrisy; it is too transparent.

This *ne plus ultra* of editors chuckles heartily over the word *idiosincricities* which the compositor substituted for idiosyncrasies in our former article. Well, let him laugh. It is not often that he gets an opportunity to do so over *our* English. Were we to indulge in such a species of amusement as is furnished by his pages, we should have very little space left for anything else. The vile insinuation that we "cribbed" or hired anybody else to steal the subscription list of another when starting this Magazine, could only have originated in "a heart deceitful above all things and desperately wicked," like that of the one who invented it. It is sufficient for us to say to those who have known us for years that we never countenanced or had anything to do in such a matter, and never heard of it until it was asserted by a wretch beyond the Alleghanies, whose counterpart we take our opponent to be. If such be the exemplers he follows, we do not wonder that respectable union men have "cut" his company, and obliged him to seek his "bread" in another quarter.

DEATH OF WILLIAM C. DUNN.

Again has Death invaded the ranks of the craft in the city of New York. This time has been taken from our midst a respected friend and steady subscriber to this Magazine, William C. Dunn, Esq., of Yorkville. Mr. Dunn was born of Protestant parents, in the north of Ireland, on the 28th of October, 1814, but emigrated to this country with his father's family when only five years of age. Consequently the greater portion of his education was received in this land, under a republican form of government. When seventeen years of age, he was placed with Milne Parker in Yorkville to learn the art of coach-body making. There, as companions in apprenticeship he had among others the late John C. Parker, Jefferson Brown, John H. Smith, and Joseph H. Godwin, the three last mentioned being still in business in this city. In 1849, Mr. Dunn commenced business with his brother, the partnership continuing down to about two years ago, when declining health compelled him to withdraw from active life. The disease of which our friend died, on the 12th of December last in his 55th year, had been doing its work for thirty years, and was pronounced the asthma by the physicians. A post mortem examination showed that the lungs, liver, and heart were much affected, and this complication of ills rendered his last two years of life distressingly painful. Mr. Dunn was a distinguished mechanic, a warm friend, and very sociable. His remains now rest in Trinity cemetery, beside those of his wife, who died one and a half years ago. He leaves two sons and a daughter behind to mourn his loss.

TRADE NEWS OF THE MONTH PAST.

The Cigar Manufacturers' Association of New York, not being able to satisfactorily adjust matters with the Unions, *Resolved* to discharge every one who was a member in their employ on the 28th of November, and thereafter to give none ef them a job, confining themselves to non-Union men. Subsequently the Association offered an increase of wages, which the men agreed to accept providing the bosses would bind themselves to hire none but Union men. This the bosses refused to do, denouncing such a proposition as preposterous and too exacting, and at once resolved that unless every known Unionist signed a paper renouncing his allegiance to the Cigarmakers' Union, he should be discharged....The "Workingmen's Union" have asked that the eight-hour law be enforced by those having charge of the public work, and appointed a committee to effect the repeal of the conspiracy laws of the State of New York, the coming session.....The cartmen of New York have held meetings the past month

with the view of promoting a better understanding between themselves, individually, and the car-drivers, whereby angry feelings may be prevented, and unnecessary detention in travel avoided. This is a consummation devoutly to be wished by every good citizen, too much *mulishness* having been exhibited heretofore, on all sides, for the public good....Some of the bricklayers having had their dinner hour reduced to thirty minutes by a portion of the bosses, the Unions in New York, took action, ordering all thus treated to claim a full hour, and if it was not granted them, then to strike.

MECHANICAL NOTES.

BITUMINOUS coal was known and employed by the blacksmiths of both Greece and Rome. Such coal was found in Elea, on the road to Olympia, and in Liguria, where likewise amber in large quantities abounded.... The art of refining and working iron and steel was diffused ever Arabia by the Egyptians whose armies subdued the oreater portion of it. The mountains of Palestine were gich in iron ore....It is proposed by an Englishman to ronvert wrought iron into steel or halfsteel, by submitcing it to the action of gases under pressure, such as hydrocarbons and carbonic oxyd, either alone, or in conjunction with nitrogenous compounds, such, for instance, as cyanogen gas, or ammonia, or other gases containing nitrogen in admixture, preferring, however, the former to convert into semisteel, or for the purpose of hardening it.... There is an "iron mountain" at Cobden, Ill., about five miles long and two hundred feet high, full of iron ore, partially owned by the Illinois Central Railway Company.... An ingenious inventor in Pennsylvania has lately patented a "tire bending and punching machine," of extraordinary power worked by hand on the lever principle....In tempering steel, experiment gives the following colors from given temperatures: very pale-yellowish by 430°; pale straw, 450°; yellow, 470°; brown, 490°; mottled brown, 510°; purple, 530°; bright blue, 550°; blue, 560°; dark blue, 600.°

LITERARY NOTICES.

THE *Atlantic Monthly* for Jannary, comes to us freighted with good things as usual, fourteen in number. Among them is a paper by James Parton, entitled, "The Mean Yankees at Home," from which we extract the following passage: "A curious thing about New England is the variety of eccentric characters to be found there. In almost every town there is a farmer or mechanic who has addicted himself to some kind of knowledge very remote from his occupation. Here you will find a shoemaker, in a little shop (which he locks when he goes to dinner or to the post-office, much to the inconvenience of customers), who has attained celebrity as a botanist. In another village there may be a wheelwright who would sell his best coat for a rare shell, and, not far off, a farmer who is a pretty good geologist and is forever pecking away at his innocent rocks. Again, you will find a machinist who is enamored of "large paper" copies of standard works, and rejoices in the possession of rarities in literature which he cannot read. I know an excellent steel-plate engraver, who, besides being a universal critic, is particularly convinced that the entire railroad system of the world is wrong,—ties, rails, driving wheels, axles, oil boxes, everything,—and employs his leisure in inventing better devices. Then there are people who have odd schemes of benevolence, such as that of the Massachusetts farmer who went to Palestine to teach the Orientals the true system of agriculture, and was two years in finding out that they wouldn't learn it. There are morose men and families who neither visit nor are visited; and there is, occasionally a downright miser, of the ancient type, such as we read of in old magazines and anecdote books. There are men, too, of an extreme eccentricity of opinion. I think there are in Boston about a dozen as complete, immovable, if not malignant, Tories, as can be found this side of Constantinople,—men who plume themselves upon hating everything that makes the glory of their age and country. And, speaking of Boston—solid, sensible Boston,—what other city ever accomplished a feat so eccentric as the production of those twin incongruities, George Francis Train and the Count Johannes?"

Our Young Folks for January is the beginning of volume five, and presents a good opportunity for subscribing. It contains ten longer, and a few shorter articles, illustrated with three full page and eleven smaller original engravings. Unquestionably this is the most interesting —not to say the most fascinating—monthly for juveniles, ever published in this or any other country. The yearly subscription is $2; when taken with "the Atlantic Monthly," $5. Published by Field, Osgood & Co., (successors to Ticknor & Fields), Boston.

Patent Journal.

Sept. 22. (82,344) WAGON BRAKE.—David Phillips, Cordova, Ill.: I claim a brake consisting of the shaft D, having rub-blocks attached, held in by the rods F, and operated by the lever C and H, connected by the rod G, all substantially as described.

(82,353) MOLD FOR CASTING SLEIGH SHOES.—N. W. Russel, Cedar Falls, Iowa: I claim, *First*, The sand-flask or cope, A, and metallic mold-section, B, constructed substantially as described, when used in combination with each other for the production of sleigh-shoes, as set forth. *Second*, The covering-plates, J, in combination with the channeled metal section, B, and sand-cope, A, substantially in the manner and for the purpose described.

(82,380) SLED KNEE.—Benjamin F. Cady, Chittenango, N. Y.: I claim a sleigh-knee having rod, A, and shield, H, constructed, combined, and arranged substantially as described, as a new article of manufacture.

(82,385) EQUALIZER FOR VEHICLES.—J. J. Connelly, Chicago, Ill.: I claim a draught-equalizer, consisting of an evener or draught-bar, A, A, pulley, H, I, G, J, and chains, O, N, the chain, O, passing over the pulleys, H, G, and providing a draught-attachment for the outside trace of the "nigh" horse, and the inside trace of the "off" horse, and the chain, N, passing over the pulleys, J, I, and providing a draught-attachment for the outside trace of the "off" horse, and the inside trace of the "nigh" horse, substantially as and for the purposes specified and shown.

(82,405) THILL COUPLING.—James Haverly and Charles A. Tibbitts, La Porte, Ind.: We claim, *First*, The construction of the clasp, A, with its box, B, attached thereto, substantially as shown and described. *Second*, The construction of the arm, E, and the arrangement therefor with reference to the box, B, substantially as set forth.

(82,420) Carriage Shackle. — George G. Larkin, West Amesbury, Mass.: I claim the disk, *a*, provided with radial sockets, and carrying the pad, C, when formed with a screw-threaded shank, *e*, adjustable in the front side of the clip, A, as herein described for the purpose specified.

(82,456) Joint for Carriage Top Prop.—Elbertson W. Waite, New Haven, Conn.: I claim, *First*, A joint, formed by combining segmental grooves near the ends of the parts to be united, with a circular rib upon the joint-piece, substantially as spscified. *Second*, The joint-pieces, *e*, with circular ribs, *d*, entering segmental grooves, *c*, in the bars, *a*, *b*, in combination with the cylinder, *i*, and bolt or rivet, *f*, substantially as specified.

(82,472) Army Wagon.—Alfred Sully, United States Army: I claim, *First*, The body, C, constructed as described, and provided with seats, F, F, F and E, receptacle, L, and railing, M, all substantially as and for the purposes herein set forth. *Second*, In combination with the seats, F, F, F, the hinged dash-boards, G, G, G, and foot-boards, H, H, H, substantially as and for the purposes herein set forth. *Third*, In a wagon provided with suitable seats and foot-boards, the employment of sectional tent-pieces, I, I, I, substantially as and for the purposes herein set forth. *Fourth*, The combination of the body, C, seats, F, F, F, and E, railing, M, receptacle, L, dash-boards, G, G, G, foot-boards, H, H, H, and folding tent-pieces, I, I, I, all as herein shown and described.

29. (82,483) Axle for Carriages.—W. D. Bollinger, Cedar Rapids, Iowa: I claim axles for wagons, cars, and other carriages, made in two parts at A and B, and connected together, substantially as and for the purpose described.

(82,510) Carriage Spring. — E. L. Gaylord, Terryville, Conn.: I claim, *First*, A spring for wheel vehicles, composed of two bars, bent so as to diverge from each other, from their central parts outward toward each end, and at the same time have a longitudinal, curved, and twisted or torsal form, substantially as shown and described. *Second*, The attaching of the ends of the springs to the bolster and axle of the vehicle, by means of the swivel-clips, F, constructed substantially as shown and described.

(82,530) Carriage Wheel.—J. Blackburn Jones, Sparta, Ill.: I claim the metallic hub, A, provided with a dove-tail recess, *a*, extending circumferentially around it in connection with the wooden spokes, B, with metal sockets at their lower ends, and provided at their inner ends with dove-tail tenons, *d*, fitted in the hub, substantially as shown and described.

(82,600, Re-issue) Turning Wagon Hubs.—Wallace W. Cleaveland, Coldwater, Mich.: I claim the arrangement of the revolving cutter-head, carried in the lateral and longitudinal moving frame, with the fixed arbor revolving the block of which the hub is made, all as herein described.

(82,605, Re-issue) Machine for setting and cooling Tire.—Jacob Courtleyow, Chariton, Iowa: I claim the bench, *a*, *a*, *a*, *a*, attached to the trough, F, together with the slide and axis, constructed, arranged, and operated as above described, for the purpose of setting and cooling tire, for the purpose and in the manner set forth.

(82,630, Re-issue) Hub for Wagon Wheels.—Freeman Nichols, Newport, Ky.: I claim the arrangement described, consisting of the wooden core, with mortises, B, and affording seats on its periphery for the shoulders, G, of the spokes, together with band, D, having mortises, *e*, *e'*, the latter or outer portions being more flaring than the inner, and adapted to form sockets for the taper portions of the spokes, substantially as described and represented.

Oct. 6. (82,690) Carriage Wheel.—John G. Buzzell, Lynn, Mass., assignor to himself and Charles Cummings, Hollis, Me.: I claim in the carriage-wheel, consisting of the hub, A, having the chambers, *a*, *a*, and the caps, B, B, of the spokes, C, C, bent in the manner specified, the springs, E, inserted in the felloe, D, all arranged and operating substantially as herein shown and described

(82,706) Sleigh.—E. H. Gillman, Montpelier, Vt.: I claim the draw-rods, D, D, for sleighs, for the purposes and in the manner and form set forth.

(82,726) Carriage Spring.—Josiah R. Locke, San Francisco, Cal.: I claim, *First*, The box, J, elastic packing or spring, K, and the extension-braces or rods. L, L, attached to the side springs, G, G, substantially as and for the purpose specified. *Second*, The combination of the side springs, G, G, with the C-spring, I, by the shackle connection, H, the C-springs extending around the axle-bed and attached to the reaches, substantially as described. *Third*, The springs, E, E, crossing the upper ends of the springs, G, G, and passing over the bolster, and attached to the forward ends of the outside reaches, substantially as described.

(82,727) Carriage Spring.—Joseph R. Locke, San Francisco, Cal.: I claim, *First*, In combination with the wood and steel springs, A, A, the goose-neck springs, D, D, constructed substantially as described. *Second*, The double-acting springs, F, F, and the slides, E, E, in which the lower end moves, or equivalent device, the whole constructed to operate substantially as described.

(82,785) Equalizing Whiffle-tree.—Harrison W. Austin, Portage, Mich.: I claim, *First*, The arrangement of the equalizing-eveners, E, with both of the double-tree strips, A, grooved pulleys, *p*, chain, F, and whiffle-trees, D and D', all constructed and operating substantially as and for the purpose herein set forth. *Second*, The arrangement of the eveners, E, E, in such relation to the whiffle-tree, D', by means of the pulley, P, and chain, F, that when an outside horse starts the reaction will be divided between the other horses, in the manner substantially as described.

(82,790) Bushing for Wheels.—Thomas Blake, Stockton, Cal.: I claim the bushing, C, provided with the cylindrical bore, D, and having its external surface polygonal, as and for the purpose described.

(82,830) Breast Yoke for Double Harness.—A. F. Hammel, St. Louis, Mo.: I claim, *First*, The collar, A, and yoke, B, joined at *b* and *b'*, when combined and arranged substantially as described. *Second*, The swivel, C, *c*, in combination with the breast-yoke, B, as and for the purpose set forth.

(82,839) Brace for Carriages.—Joseph Howe, Mount Pleasant, Iowa: I claim the ring, *a*, ball-and-socket joints, *c* and *d*, and plate, *b*, in combination with braces, C, attached to the body of a carriage, as described, and operating as and for the purposes set forth.

(82,852) Apparatus for attaching Horses to Vehicles.—Charles Leroy, Mexico, N. Y.: I claim, *First*, The clips, C, C, constructed as described, and secured to the shafts of the vehicle, as and for the purpose described. *Second*, Draught-bar, A, rods or traces, B, B, spiral springs, D, D, and clips, C, C, all combined, arranged, and operating substantially as and for the purpose set forth.

(82,857) Mode of attaching and detaching Shafts and Poles of Carriages.—Leslie Marmaduke, Arrow Rock, and Sidney T. Bruce, Marshall, Mo.: We claim, *First*, The coupling-heads, D, *a*2, and the coupling-block, E, when arranged and operated substantially in the manner and for the purpose herein shown and described. *Second*, The arrangement of the axle piece, A, traction-rods, *a*, *a*1, rod, B, lever, C, and coupling-heads, D, *a*2, E, substantially in the manner shown and described.

13. (82,929) Apparatus for setting Axles to Wagons.—David Ducharne, Mechanicsville, N. Y.: I claim, *First*, The hook or jack, B, C, and the upright fulcra or studs, E and E', in combination with the horizontal cross-bar, F, each being constructed and operated substantially in the manner and for the purposes herein described and set forth. *Second*, The triangular-shaped guide, H, in combination with the jack, B, studs, E and E', and cross-bar, F, substantially in the manner and for the purpose herein described and set forth.

(83,003) DUMPING WAGON.—George R. Sneath and C. H. Sneath, Wilmington, Del.: We claim, *First*, The combination, in a dumping-wagon, of the box, A, hung on trunnions, with bed-frame timbers, *h*, *h*, cross-bar, *t*, bent axletree, *s*, all operating substantially as shown and described, and for the purpose set forth. *Second*, The crank-shaft, *v'*, and hinged bolts, *v*, *v*, arranged to operate as herein described, for the purpose specified. *Third*, The bed-frame of a dumping-wagon, when composed of the parts, *h*, *h*, *t*, *i*, *i*, *i*, *u*, *u*, and *j*, arranged as herein described. *Fourth*, The arrangement of the frame, *l*, *l*, *o*, with the fifth-wheel, *k*, and springs, *m*, *n*, *n*, substantially as described, when forming part of the running gear of a dumping wagon, substantially as herein described.

(83,035) VELOCIPEDE.—Charles K. Bradford, Lynnfield, Mass.: I claim, *First*, Connecting the body of a velocipede to its driving-shaft in such manner as to vary the position of such body and its seat with respect to such driving-shaft, in manner and for the purpose as hereinbefore explained. *Second*, Combining with a velocipede a compound crank, or series of cranks, or eccentrics of different radii, for enabling the speed and power of the vehicle to be varied, essentially as herein shown and described. *Third*, The arrangement of the rope, *n*, or its equivvlent, as affixed to the forked bar, *m*, and supported and guided by the guides, *o*, *o*1, *o*2, *o*3, *o*4, *o*5, or their equivalents, substantially as before described and herein shown. *Fourth*, The combination, with the body of a velocipede, of a seat adjustable thereon, substantially in the manner and for the purposes set forth. *Fifth*, The combination of the body of a velocipede, formed as described, and its adjustable seat, with a compound crank or its equivalent, substantially as and for the purposes set forth.

(83,056) CARRIAGE CURTAIN FASTENING.—John C. Fish, Barnstable, Mass.: I claim a carriage-curtain having button-holes, each with an inserted elastic across the head of the slit thereof, substantially as shown and described. Also, in combination with each button, having an oblong crown-shaped head, an elastic which holds the edge of the eye close to the sides of the shank, substantially as shown and described.

(83,083) COMBINED HUB AND BOX FOR WHEELS.—Samuel Mosher, Winchester, Ill.: I claim the combination of set-screws *e*, with flange C, and washer *s*, the whole constructed and arranged substantially as specified.

(11,705, dated Sept. 19, 1854: Extension) SAFETY WASHER FOR SECURING WHEELS TO AXLES.—William Thornley, Philadelphia, Pa.: I claim a washer having a projecting flange, and stop or stops; also the cap, with the stop or stops, as described, for the purpose specified.

20. (83,170) CARRIAGE SPRING.—John Jackson, Owego, N. Y.: I claim the combination of the twist of steel, the circular arm, the strap or chain for the arm to play on, the ratchet-wheel and lever to adjust or change the power of the spring to carry either a light or heavy load.

(83,177, ante-dated October 3, 1868) METHOD OF WELDING TIRES.—Isaac Lamplugh, Peoria, Ill.: I claim the combination of the tire, A, provided with a V-shaped notch at each end, within which is inserted a diamond-shaped plug B, which is welded to and forms a part of the tire, in the manner and for the purposes set forth.

(83,183) SHIFTING BUGGY TOP.—Thomas Lodge, New Lisbon, Ohio: I claim the spring-lever G, G, in combination with screw-hook F, button or head F', handle B, frame C, standards D, and angle-irons E, on seat A, all constructed to operate in the manner substantially as described.

(83,203) WHIP SOCKET.—Louis J. Parsons, New Bedford, Mass.: I claim making whip-sockets in longitudinal sections, connected together at the bottom by springs or hinges, and held together at the top by an elastic band, as herein set forth and described.

(83,204) THILL GUARD.—Louis J. Parsons, New Bedford, Mass.: I claim the metallic safety-guard C, for thills of carriages, constructed and operating substantially as and for the purpose set forth and described, and applied in any practical manner.

(83,205) MODE OF FASTENING APRON HOOKS TO THE DASHER FALLS OF CARRIAGES.—Louis J. Parsons, New Bedford, Mass.: I claim securing hooks or rings to "dasher-falls" by metallic clasps B2, substantially in the manner described.

(83,217) CARRIAGE SPRING.—Thomas J. Shears, Ypsilanti, Mich.: I claim the combination of the springs in the form described, composed of the coil-springs F, or rubber springs G, with the subsidiary springs H, when arranged substantially as herein described.

(83,234) KINGBOLT AND WHIFFLETREE PLATE FOR VEHICLES.—Levi Adams, Amherst, Mass.: I claim the two plates, constructed as described, the one A, provided with the parallel flanges *a*, *a*, semi-annular groove *b*, and opening *c*, the other B, provided with the parallel flanges *d*, *d*, semi-annular ledge *e*, projection *f*, tubular pendant *g*, and reach-extension *h*, all arranged and operating as described for the purpose specified.

(83,245) WHEEL FOR VEHICLES.—R. J. Bowman, Mansfield, La.: I claim, *First*, The tubular rim A, composed of two parts, constructed and fitted together in the manner substantially as and for the purpose set forth. *Second*, The flat spokes C, secured to the hollow rim A, by means of the bent ends *e*, angle-plates *f*, bolts *d*, *x*, and grooved blocks *g*, to the hub-ring D, by means of the cylindrical keys *i*, and chambers *h*, *x*, substantially as herein shown and described. *Third*, The combination of the rim A, tire B, spokes C, and the hub, composed of the ring D, and box E, all constructed and arranged substantially as and for the purpose specified.

(83,256) HEAD BLOCK FOR CARRIAGES.—T. M. Cluxton, Rising Sun, Ind.: I claim, in the T-shaped head-block A, B, for carriages, the combination of the recessed extension-arm B, with the supporting-plate D, and braces E, E, arranged as herein described and set forth.

(83,258) SEAT LOCK FOR CARRIAGES.—William Conway, Rushville, N. Y.: I claim the bolt *b'*, provided with the tongue *b''*, in combination with the sliding key *c*, and the socket *a*, as and for the purpose set forth.

(83,269) BUGGY TOP FASTENING.—Daniel S. Early, Hummelstown, Pa.: I claim the jointed bars M, in combination with the arm *n*, *n*, and sockets *o*, *o*, as and for the purpose described.

(83,287) WHIP SOCKET.—John Julien, Christiansburg, assignor to himself and John F. Horr, Springfield, Ohio: I claim a whip-socket, constructed with a lock D, having a spring-bolt D', and flexible chain C, notched curved piece C1, and spring C2, arranged to operate in combination, substantially as set forth.

(83,294) HOLD BACK FOR CARRIAGES.—John A. Mackinnon, Cleveland, Ohio: I claim, *First*, The loop F, and yoke D, arranged at right angles to each other, or nearly so, the latter passing around hook B, and provided with the bar, having arms E, substantially as and for the purpose set forth. *Second*, The continuous band I, attached to the hook, in combination with the key J, and shaft A, substantially as and for the purpose set forth. *Third*, The loop F, and yoke D, provided with the cross-bar and arms E, in combination with the hook B, and tongue C, substantially as and for the purpose set forth.

(83,305) CARRIAGE STEP.—George Panchot, Hastings, Minn.: I claim the attachable and removable carriage-step, constructed substantially as above described.

27. (83,360) SPRING.—Frederick Cajar, assignor to himself and James Anderson, New York city: I claim elliptical or corrugated springs, made of corrugated sheets or plates, arranged as herein shown and described, substantially as and for the purpose set forth.

(83,400) HOLDBACK.—Rufus Moody, Monmouth, Maine: I claim the loop *b*, *c*, *d*, in conjunction with the plates *e*, piece *f*, plate *k*, and hinge *h*, to be operated by the breeching-strap of the harness, as herein described, when attached to a carriage-shaft, as and for the purposes set forth.

(38,477) Stitching Horse.—Thomas Depp, San Marcos, Texas: I claim, *First*, The combination of the seat D, lever F, and strap or cord H, with each other and with the bench B, and clamps C, substantially as herein shown and described and for the purpose set forth. *Second*, The combination of the foot-lever K, and strap or cord I, with the lever F, and bench B, substantially as herein shown and described and for the purpose set forth. *Third*, An arrangement of mechanism by means of which the jaws of the clamps of a stitching-horse may be closed to hold the work by the weight of the workman when sitting upon his seat, substantially as herein shown and described.

(83,497) Truck and Wagon Reach.—Philip Hicks, Chicago, Ill.: I claim, *First*, The reach made of two wooden parts A, B, connected by a metallic curved splice, consisting of separate plates P, P, or of a solid metallic piece K, the whole arranged substantially as and in the manner herein set forth and specified. *Second*, The metallic block K, constructed and secured to the curved part of the reach or splice, substantially as and for the purpose set forth.

(83,511, ante-dated Oct. 17, 1868) Thill Coupling.—Wilson W. Knowles, Plantsville, Conn.: I claim the combination and arrangement of the center-piece C, with the eared-piece A, eye-piece B, bolt E, and nut F, all arranged, combined, and operating as described.

(83,525) Bolt Cutter.—Thomas W. Moore, Richmond, Ind.: I claim the arrangement of the shear-blades, levers, and swivel-pivot pins, in the manner described and for the purpose set forth.

(83,546) Thill Coupling.—Robert Pyle, Wilmington, Del.: I claim, *First*, The die, as constructed, in combination with the bolt and washers, as shown and described. *Second*, The combination of the die *a*, and screw-bolt *c*, with the clip-iron *k*, tie-iron *f*, and thill-iron, with an eye or hooked end, constructed and operating in the manner and for the purpose substantially as herein shown and described.

(83,555) Fastening for Carriage Curtains.—Ephraim Shepard, New York city: I claim the tube B, slotted substantially as shown, to form a spring *b*, in combination with the eye E, in the curtain D, all constructed and arranged to form a new and improved curtain fastening, as set forth.

Nov. 3. (83,614, ante-dated Oct. 7, 1868) Wagon Stake.—Amos Fassett, Sterling, Ill.: I claim, *First*, The plate B, when provided with the flange *b'*, and the enlargements *e*, *e*, projecting below said plate, substantially in the manner and for the purposes herein set forth. *Second*, In combination with the above, I claim the side plates C, D, arranged and operating in the manner specified.

(83,625) Machine for bending Elliptic Springs.—Joseph Gatchell, Rahway, N. J.: I claim, *First*, The combination, substantially as described, of the templet, rolls, bending-levers, and weight. *Second*, The combination of the series of rolls with the bending-levers and templet, arranged substantially as described.

(83,693) Bow Iron for Carriages.—A. W. Clark and George W. Marble, Charlestown, N. H.: We claim the bow-iron C, constructed as described, with holding points or clasps, for attachment to the bows of a baby-cab or other carriage, substantially as and for the purpose herein set forth.

(83,696) Velocipede.—C. N. Cutter, Worcester, Mass.: I claim, *First*, The combination with the frame A, cross-piece I, and crank-shaft B, of the elbow-connections G, H, or either, and right-angle levers K, L, or either, substantially as and for the purposes set forth. *Second*, The combination with the crank-shaft of a velocipede, and main frame thereof, of one or more sets of elbow-connections G, connected to a right-angle lever K, by means of a swing-piece M, substantially as and for the purposes set forth.

(83,781) Wagon Brake.—George McKenzie, Zanesville, Ohio: I claim, *First*, The adjustable connecting-parts *c*, *e*, in combination with the rack-bar G, and pinion J, of a wagon-brake, substantially as described. *Second*, The scrapers O, applied to the brake-bar F, substantially as and for the purpose herein set forth and shown. *Third*, The plate E, provided with guides *a*, and secured to the reach, when used in connection with the parts set forth in the first clause of claim, substantially as shown and described, and forming a surface on which the brake-bar F moves, as set forth. *Fourth*, The casing H, bolted to the reach, when inclosing the pinion J, and forming, at the same time, a bearing for the rock-shaft I, and a space in which the rack-bar G, may be moved back and forth, as set forth.

(83,810) Carriage Spring.—William F. Whitney, Milton, N. Y.: I claim the combination of the torsion-springs B, and their attached arms *g*, arranged for operation in connection with the body and running-gear of a wagon or other vehicle, substantially as described and for the purpose herein set forth.

10. (83,830) Head Block.—C. R. Bushnell, St. Anthony's Falls, Minn.: I claim, *First*, The graduated semicircle I, resting upon the carriage, and provided with two rows of square holes; the set-screws, K, armed lever, H, receding pawls, G, ratchet-wheels, F, D, and shaft, C, all arranged to operate in the described manner, for the purpose specified. *Second*, The graduated semicircle, I, when provided with two rows of square holes and the set-screw, K, as herein described, for the purpose specified.

(83,843) Thill Coupling.—Norman N. Gordon, assignor to himself and Robert Boyd, Rochester, N. Y.: I claim the combination of the closed eye, *d*, provided with narrow neck, *f*, with the jaws, *a*, *a*, provided with the separated bearings or journals, *b*, *b*, the whole arranged as described, and operating in the manner and for the purpose specified. Also, in combination with the above, the sliding pressure-plate, *h*, provided with lugs, *i*, *i*, which rest upon the jaws, the said plate serving to apply the rubber block to the bearing, through media of screws, *k*, *k*, as herein described.

(83,864) Sleigh Runner.—Jacob Laux, Cleveland, Ohio: I claim, *First*, The semi-disks or plates, F, radial arms, H, H', in combination with the sleigh-runner, in the manner as and for the purpose specified. *Second*, The cap J', provided with a groove, K', as arranged in combination with the plates J, for the purpose and in the manner set forth. *Third*, The centre, E, when constructed in two sections, in the manner substantially as set forth.

(83,879) Wagon Brake.—Joseph J. Pierce, Maquoketa, Iowa: I claim the combination of the lever, K, arm, F, slot and bolt, H, and rack, L, the rock-shaft, D, arms, M, M, rods, N, N, collars, O, O, springs, R, R, and bar, P, the whole combined, arranged, and operating as described.

(83,900) Wagon.—Joseph F. Applegate, New Albany, Ind.: I claim, *First*, The arrangement of the coupling-rod, F, made in two pieces, connected by a screw-swivel, *h*, and attached at the front end, either to the sand-board or to the kingbolt, and at the rear-end provided with a yoke, *g*, which moves freely around the roller or shaft, *f*, in boxes, *i*, *i*, on the inner sides of the two middle rails of the frame, A, as and for the purposes herein set forth. *Second*, The tail-gate, G, provided with a strap, *k*, across its upper end, and with slides, H, H, extending below the wagon, which work on pieces, I, I, on the inner side of the frame, A, substantially as and for the purpose herein set forth. *Third*, The arrangement of the spring-bolts, *e*, *d*, in combination with the perch-pole, C, sheath, D, and hounds, E, E, all constructed and operating substantially as and for the purposes herein set forth.

(83,914) Draught Equalizer for Wagons.—Charles C. Bradley, Brodhead, Wis.: I claim the combination and arrangement of the power-equalizer, consisting of the duplicate poles, and the two whiffletrees, and two neck-yokes, each with a long and a short arm, and the pulleys attached to the whiffletrees and poles, for the purpose herein set forth, or substantially the same.

(83,917) Carriage.—Charles Brown, assignor to himself and Aaron G. Salmon, Adrian, Mich.: I claim the use and manufacture of the side straps, A, and C, combined with the corner-iron, B, by means of the portions, *a* and *b*, substantially as set forth and described.

(83,920) DUMPING WAGON.—William S. Bullock and Hugh Hanigan, Wilmington, Del.: We claim the combination of the curved springs, *s*, bed-frame, *a*, applied and operating in connection with the hind axle, *d*, and body, *m*, as herein shown and described for the purposes specified.

(83,929) BRAKE FOR VEHICLES.—E. M. Chumard, Pittston, Pa.: I claim the arrangement of the crank-shaft, D, rods, *g*, *g*, arms, *x*, *x*, slotted guides, *m*, loops, *h*, *h*, and brake-blocks, I, with the brake-bar, C, and operated by the lever, K, and spring, *l*, all constructed substantially as set forth.

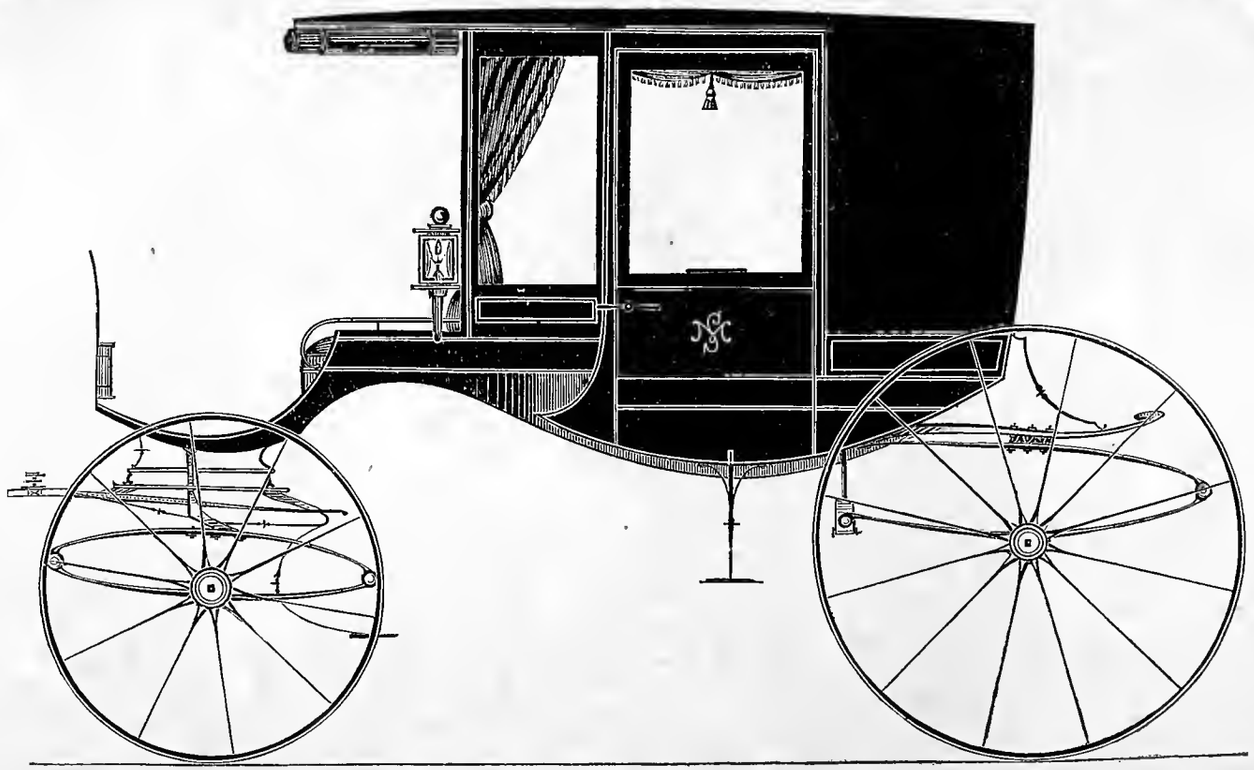
(84,009) WAGON WHEEL.—Silas Shirley, Rockford, Ill.: I claim the wheel described, consisting of the box, A, beveling-blocks, B, with curving flanges, *b*, *b*, friction-plates, D, rods, *c*, and caps, E, the whole being combined and operated in connection with the spokes of an ordinary wheel, substantially in the manner and for the purpose described.

CURRENT PRICES FOR CARRIAGE MATERIALS.

CORRECTED MONTHLY FOR THE NEW YORK COACH-MAKER'S MAGAZINE.

NEW YORK, DEC. 18, 1868.

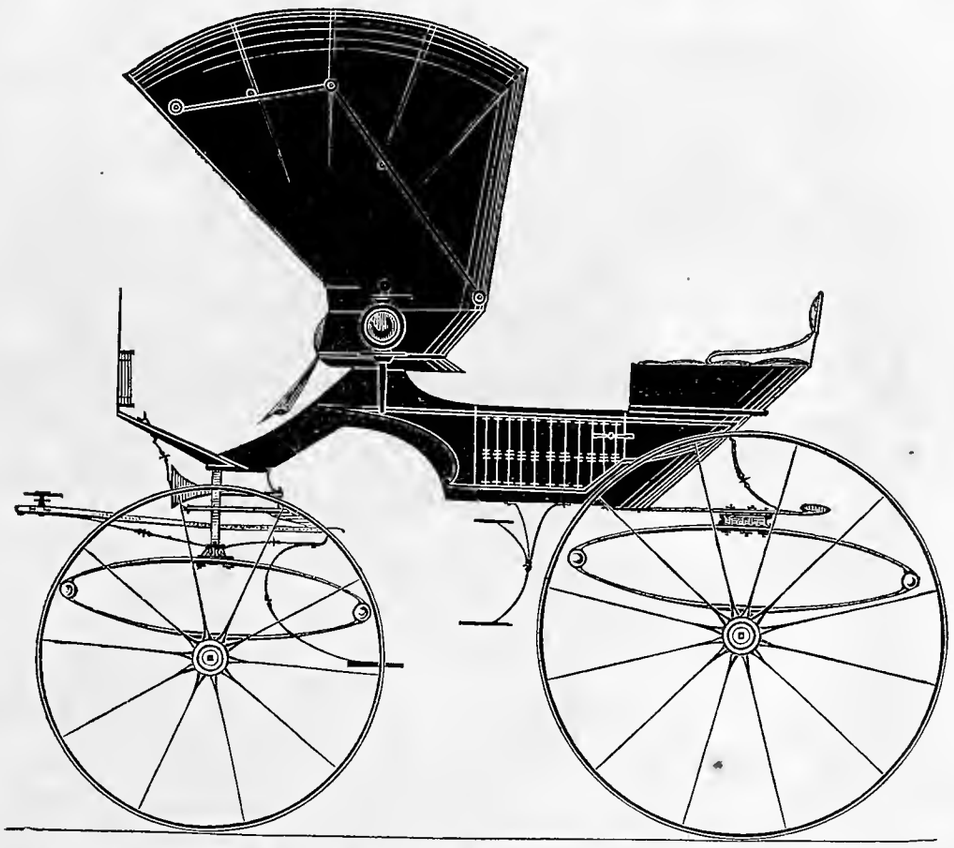
Apron hooks and rings, per gross, $1.25 *a* $1.75.
Axle-clips, according to length, per doz., 50c. to 80c.
Axles, common (long stock), per lb, 8c.
Axles, plain taper, 1 in. and under, $5.50; 1⅛, $6.50; 1¼, $7.50; 1⅜, $9.50; 1½, $10.50.
Do. Swelled taper, 1 in. and under, $7.00; 1⅛, $7.50; 1¼, $8.75; 1⅜, $10.75; 1½, $13.00.
Do. Half pat., 1 in. $10; 1⅛, $11; 1¼, $13; 1⅜, $15.50; 1½, $18.50.
Do. do. Homogeneous steel, ⅝ in., $11.00; ¾, $11; ⅞, $12.00; long drafts, $2.50 extra.
☞ These are prices for first-class axles. Inferior class sold from $1 to $3 less.
Bands, plated rim, 3 in., $1.75; 3 in., $2, larger sizes proportionate.
Do. Mail patent, $3.00 *a* $5.00.
Do. galvanized, 3½ in. and under, $1; larger, $1 *a* $2.
Bent poles, each $1.00 to $1.50.
Do. rims, extra hickory, $2.75 to $3.50.
Do. seat rails, 50c. each, or $5.50 per doz.
Do. shafts, $6 to $9 per bundle of 6 pairs.
Bolts, Philadelphia, list. 25c.
Do. T, per 100, $3 *a* $3.50.
Bows, per set, light, $1.00; heavy, $2.00.
Buckles, per grs. ½ in., $1, ⅝, $1.12; ¾, $1.25; ⅞, $1 75; 1, $2.00.
Buckram, per yard, 18 *a* 23c.
Burlap, per yard, 14 *a* 16c.
Buttons, japanned, per paper, 20c.; per large gross, $2.25.
Carriage-parts, buggy, carved, $4.50 *a* $6.
Carpets, Brussels, $1.75 *a* $2; velvet, $2.75 *a* $4; oil-cloth, 45 *a* 70c.
Castings, malleable iron, per lb, 16c.
Clip-kingbolts, each, 40c., or $4.50 per dozen.
Cloths, body, $3.50 *a* $5; lining, $2.50 *a* $3. (See *Enameled.*)
☞ A Union cloth, made expressly for carriages, and warranted not to fade, can be furnished for $2.50 per yard.
Cord, seaming, per lb, 35c.; netting, per yard, 8c.
Cotelines, per yard, $4 *a* $8.
Curtain frames, per dozen, $1.25 *a* $2.50.
Do. rollers, each, $1.50.
Damask, German cotton, double width, per piece, $15 *a* $22.
Dashes, buggy, $1.75.
Door-handles, stiff, $1 *a* $3; coach drop, per pair, $3 *a* $4.
Drugget, felt, $1.75 *a* $2.
Enameled cloth, muslin, 5-4, 40c.; 6-4, 75c.
Enameled Drills, 48 in., 55c.; 5-4, 50c.
Do. Ducks, 50 in., 75c.; 5-4, 70c.; 6-4, 80c.
☞ No quotations for other enameled goods.
Felloe plates, wrought, per lb., all sizes, 20c.
Felloes (Rims), $1.50 *a* $3.
Fifth-wheels, wrought, $1.50 *a* $2.00.
Fringes, festoon, per piece, $2; narrow, per yard, 18c.
☞ For a buggy-top two pieces are required, and sometimes three.
Do. silk bullion, per yard, 50c. *a* $1.
Do. worsted bullion, 4 in., 35c.
Do. worsted carpet, per yard, 8c. *a* 15c.
Frogs, 50c. *a* $1 per pair.
Glue, per lb, 25c. *a* 30c.
Hair, picked, per lb, 40c. to 65c.
Hubs, light, mortised, $1.20; unmortised, $1. Coach, mortised, $2.
Japan, per gal., $2.
Knobs, English, $1.40 *a* $1.50 per gross.
Laces, broad, silk, per yard, 60 *a* $1.25; narrow, 10c. to 16c.
Do. broad, worsted, per yard, 40c. *a* 50c.
Lamps, coach. $10 *a* $30 per pair.
Lazy backs, $9 per doz.
Leather, collar, dash, 29c.; split do., 15c. *a* 17c.; No. 1, top, 29c.; No, 2, enameled top, 27c.; enameled trimming, 27c.; harness, per lb., 50c.; flap, per foot, 25c.
Moss, per bale, 8c. *a* 15c.
Mouldings, plated, per foot, ¼ in. 14c.; ⅜, 16c. *a* 20c.; ½, lead, door, per piece, 40c.
Nails, lining, silver, per paper, 7c.; ivory, per gross, 50c.
Name-plates. (See Advertisement.)
Oils, boiled, per gal., $1.25.
Paints. White lead, extra, $14.00, pure, $15.00 per 100 lbs.; Eng. pat. black, 30c.
Poles, $1.25 *a* $2 each,
Pole-crabs, silver, $5 *a* $12; tips, $1.25 *a* $1.50.
Pole-eyes, (S) No. 1, $2.25; No. 2, $2.40; No. 3, $2.65; No. 4, $4.50 per pr.
Sand paper, per ream, under Nos. 2½ and under, $4.50.
Screws, gimlet, manufacturer's 30 per cent. off printed lists.
Do. ivory headed, per dozen, 50c. per gross, $5.50.
Scrims (for canvassing), 16c. *a* 22c.
Seats (carriage) $2 *a* $2.75 each.
Seat-rails, 75c. per doz.
Seat-risers, Linton's Patent, $2 per pair.
Seats, buggy, pieced rails, $1.75; solid rails, $2.50.
Shafts, $12 to $18 per doz.
Shaft-jacks (M. S. & S.'s), No. 1, $2.40; 2, $2.60; 3, $3.00.
Shaft-jacks, common, $1 *a* $1.35 per pair.
Do. tips, extra plated, per pair, 25c. *a* 50c.
Silk, curtain, per yard, $2 *a* $3.50.
Slat-irons, wrought, 4 bow, 75c. *a* 90c.; 5 bow, $1.00 per set.
Slides, ivory, white and black, per doz., $12; bone, per doz., $1.50 *a* $2.25; No. 18, $2.75 per doz.
Speaking tubes, each, $10.
Spindles, seat, per 100, $1.50 *a* $2.50.
Spring-bars, carved, per pair, $1.75.
Springs, black, 16c.; bright, 18c.; English (tempered), 21c.; Swedes (tempered), 26c.; 1¼ in., 1c. per lb. extra.
If under 34 in., 2c. per lb. additional.
☞ Two springs for a buggy weigh about 28 lbs. If both 4 plate, 34 to 40 lbs.
Spokes (Best Elizabethport), buggy, ⅞, 1 and 1⅛ in. 9½c. each; 1⅛ and 1¼ in. 9c. each; 1½ in. 10c. each. 10 off cash.
☞ For extra hickory the charges are 10c. *a* 12½c. each.
Steel, Farist Steel Co.'s Homogeneous Tire (net prices); 1 x 3–16, and 1 x 1-4, 20 cts.; 7-8 x 1-8 and 7-8 x 3-16, 23 cts.; 3-4 x 1-8, 25 cts.; 3-4 x 1-16, 28 cts.
Steel Tire—best Bessemer—net prices: 1-4 x 1 1-8, 15c.; 1-4 x 1, 15c.; 3-16 x 1 1-8, 16c.; 3-16 x 1, 16c.; 3-16 x 7-8, 17c.; 3-16 x 3-4, 17; 1-8 x 7-8, 20; 1-8 x 34; 1-16 x. 3-4, 23.
Stump-joints, per dozen, $1.40 *a* $2.
Tacks, 7c. and upwards.
Tassels, holder, per pair, $1 *a* $2; inside, per dozen, $5 *a* $12: acorn trigger, per dozen, $2.25.
Thread, linen, No. 25, $1.75; 30, $1.85; 35, $1.80.
Do. stitching, No. 10, $1.00; 8, $1.20; 12, $1.35, gold.
Do. Marshall's Machine, 432, $3.25; 532, $3.75; 632, $4, gold.
Top-props, Thos. Pat, wrought, per set 80c.; capped complete, $1.50.
Do. common, per set, 40c. Do. close-plated nuts and rivets, 75*a*80c.
Tufts, common flat, worsted, per gross, 15c.
Do. heavy black corded, worsted, per gross, $1.
Do. do. do. silk, per gross, $2.c. Do. ball, $1
Turned collars, $1.25 *a* $3 per doz.
Turpentine, pr gl., 60c
Twine, tufting, pr ball, 50c.; per lb, 85 *a* $1.
Varnishes (Amer.), crown coach-body, $5.00; nonpareil, $5.25.
Do. English, $6.25 in gold, or equivalent in currency.
Webbing, per piece, 65c.; per gross of 4 pieces, $2.40.
Wheels, $12 to 22.
Whiffle-trees, coach, turned, each, 50c.; per dozen, $4.50.
Whiffle-tree spring hooks, $4.50 per doz.
Whip-sockets, flexible rubber, $4.50 *a* $6 per dozen; hard rubber, $9 to $10 per doz.; leather imitation English, $5 per doz. common American, $3.50 *a* $4 per doz.
Window lifter plates, per dozen, $1.50.
Yokes, pole, 50c.; per doz, $5.50.
Yoke-tips, ext. plated, $1.50 pair.



SIX-SEAT ROCKAWAY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

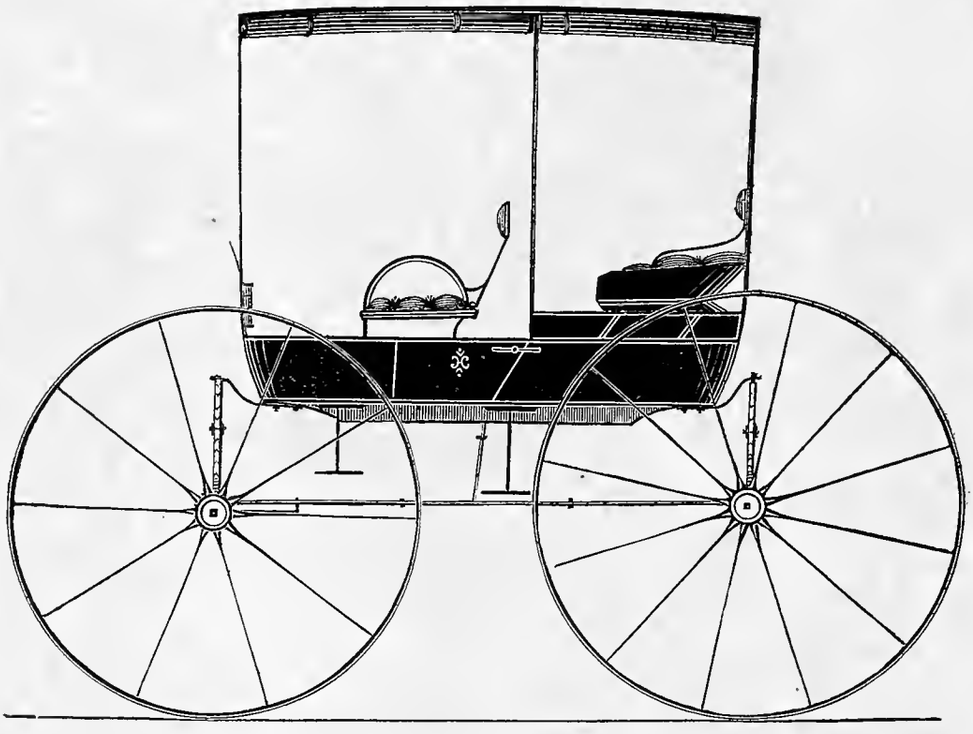
Explained on page 134.



TWO-SEAT PHAETON, OR DRAG.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 135.



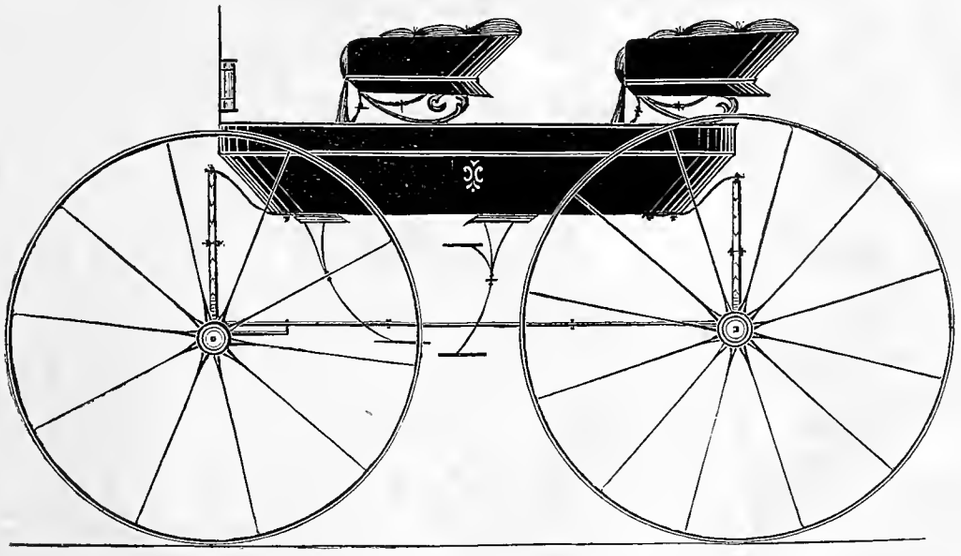
FOUR-SEAT STANDING-TOP WAGON.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 135.

C. P. H.—ORIGINAL MONOGRAM.

See remarks on page 137.



FOUR-SEAT OPEN BUGGY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 135.

DEVOTED TO THE LITERARY, SOCIAL, AND MECHANICAL INTERESTS OF THE CRAFT.

Vol. X. NEW YORK, FEBRUARY, 1869. No. 9.

Mechanical Literature.

THE BOSS' STORY.

BY H. S. WILLIAMS.

CHAP. I.—The Apprenticeship.

"Out of debt and four thousand dollars in bank," exclaimed my boss, Isaac Maples, Esq., as he extended the balance sheet toward me for my inspection. "Not bad to reflect on at the end of the year, is it?"

"You certainly have cause to congratulate yourself," I replied, taking the sheet and glancing over it. "But then you deserve success, for I have heard from some source or other that you have had a hard time of it."

"Well, yes," he replied slowly, "I have had a hard time of it, truly,—a continual struggle from boyhood up to within a couple of years back. When I reflect on it now, I can scarcely realize my present situation."

"No doubt but it would prove deeply interesting; for, with your experience to profit by, one who has the least talent for business ought to succeed in life."

"I believe that's so," he replied, "and if you've no objection, I'll relate a bit of my history, and you can fix it up in presentable shape for that magazine you write for in New York."

"Objection! Why it would be the very thing I would have asked you to do, if not too much of a tax on your time."

"Not at all,—here, take a cigar!" and he handed down a box from which I selected one, while he did the same. Lighting them, we drew up to the fire, and he commenced,—

"I was left an orphan at the age of ten years, when a maternal uncle offered me a home with him. He was a small farmer in very moderate circumstances, and. just so I did my allotted task of work, he cared not what became of me. For five years I lived there, with no advantages whatever, if we except a quarter's schooling during the three first years,—no one to look after or train my moral character; so that, at fifteen years of age, I found myself a gawky, awkward country boy, with about as much idea of the world outside of my uncle's farm as a wild Sioux has of civilization and refinement. At the latter age, however, I was indentured to a man named Higgins in an inland town of Connecticut, to learn the mysteries of coach-making. I thought I had seen hard times at my uncle's, but now I was just beginning to know what life meant, for my troubles just commenced. At daylight I was up and at the shop, having to sprinkle and sweep out the paint, trimming, and wood departments, all before seven o'clock, and in cold weather have a fire built in all three. As I boarded with the boss, and as he lived a mile from the shop, you may know that this was far from being an easy job, more particularly in the short days of winter, and when it was stormy. Then, instead of returning to the house for breakfast, it was generally brought to me by Bob Hart, the boy whose place as youngest apprentice, or "cub," as it was usually termed, I had taken. Bob was a pretty clever fellow in the main, but fond of teasing me, in which he was joined by nearly all the workmen. You have been the youngest apprentice, I suppose, and know what *teasing* means. They were insults,—gross and scandalous, heaped upon me without mercy as well as without cause. I was too proud to let them see that this endless persecution hurt me by resenting it, but, when in some lonely place by myself, my young heart would almost burst with rage and grief, and tears would unbidden fall while I planned some sweet morsel of revenge for the future. My boss was one of the most penurious of his class. Not a dime did he ever spend that he could possibly avoid, in fact so parsimonious was he that the citizens of our little town called him mean, which, in that close-fisted community, presented his character in a more conspicuous light than any words of mine could do. My indentures stated that the first year of my apprenticeship I was to have my board and two suits of clothes, the second, fifteen dollars in lieu of the clothes, and after that, twenty dollars per year until I was twenty-one. Of course the clothes were of the cheapest and most common fabrics, and my shoes of the coarsest kind, so that it required many a stitch to keep them together and many a patch to keep them whole until the next suit came.

By one of those strange and apparent inconsistencies of nature which we see so often verified in domestic life, Mr. Higgins' wife was the direct opposite of him. She

Entered, according to Act of Congress, in the year 1869, by E. M. Stratton, in the Clerk's Office of the District Court of the United States for the Southern District of New York.

was kind, affectionate, and sweet-tempered, and to her I was indebted for many a little act of kindness that made a deep and lasting impression on my heart. She kept my clothes in repair, and often did she send me an extra slice of bread for my scanty breakfast, and sometimes a piece of cake or pie, a great rarity with us *cubs*, I do assure you. God bless her for her kindness to a poor, friendless orphan boy.

Another thing that was hard to bear, and the hardest of all too, was Higgins' cruelty. If one did not move upon the instant when he ordered anything done, or if he did not do it just as he wanted it done, his fury was at times terrible to see. He would scold, abuse, and sometimes descend to blows, and on me the lion's share generally fell. Bob Hart although often scolded roundly, yet he had parents living only a few miles from town,—he had a father to protect him, while I had no one who cared aught for me. Although my uncle was my guardian, yet he never thought of my welfare,—in fact, he never troubled himself to come to see me while I lived there.

I was nearly sixteen and consequently had been at my trade for almost a year, when the incident that changed the current of my whole life occurred, the effects of which will never be entirely obliterated from my heart.

Higgins' shop, like nearly all others in a small country town, was the recipient of many an odd job, and, as there was no cabinet shop in the place, he often had furniture of various kinds to repair. One day, Mr. Higgins told me to take a chair that had gone through a gluing process, up to Judge Hammond's. Now Judge Hammond was not only the wealthiest, but the greatest man that our village could boast of, and he lived in a large house that to my eyes then was equal to any castle in the world. So I willingly took the chair and departed on my errand, for I was not only glad to get away from the shop, but full of eagerness likewise to get a look at the inside of the great house.

It was a hot day in August, and the walk was a long one, for of course Judge Hammond lived in the suburbs.

I entered the spacious grounds, and walked slowly up the broad walk, admiring with all the stunted enthusiasm of my nature, the rich and rare flowers that bloomed on every side in the greatest profusion. There were evergreens and roses, such as I had never seen before, and when I reached the house and handed the chair to a servant, I obtained one look through the open window in the parlor, with pictures and mirrors and vases that almost bewildered me. When I turned to depart, I noticed a pump near by, beneath the arched branches of a mountain elm. As I said, the day was hot, and being very thirsty I proceeded thither. But just below the pump was a large circular basin in which a great number of goldfish were swimming, and as they were the first I had ever seen, of course they only served to increase my astonishment, and I firmly believed that not only was Judge Hammond's place the finest in the world, but a perfect paradise in itself. I was too thirsty, however, to admire long, so taking hold of the pump handle, I was about to quench it by drinking from the spout, when another and still greater surprise stopped me. It came in the shape of one of the most beautiful creatures I had ever beheld, issuing from the shrubbery directly opposite. She was walking or rather tripping along by the side of a tall, dignified-looking woman, whom I afterward learned was her governess. But I had eyes only for her, so graceful and so beautiful, that even to this day she seems more like some fairy vision of romance than a living reality. Such a clear, spirituelle face, such lustrous eyes, and such a profusion of golden hair that fell in wavy ringlets around her neck, I have never seen since.

She was perhaps twelve years of age, and dressed in a thin, airy fabric of purest white that fell in graceful folds about her *petite* figure. I forgot my object in the bewilderment of the moment and was only recalled to my situation by her running towards me, as she cried, "Wait a moment, and I will bring a goblet for you to drink out of."

"Why, Estelle," answered the woman with her, "what do you mean? 'Tis nobody but a poor shop boy."

I was cut to the quick by these words, but the look she gave her governess healed it instantly.

"Suppose he is," she replied, "is that a reason why he should not drink as we do?" and turning, she darted in the house. The governess curled her lips and passed by. In a moment, Estelle returned with a large goblet in her little hand. I was about to take it, when she cried, "No, no, let me fill it for you," which she did, and then held it up for my acceptance. I took it, and stammering out my thanks, quaffed the contents which appeared like nectar to my hot and parched lips.

"What a strange child," exclaimed the governess, who had returned. "You will be treating a beggar to wine, next. Come, let us go in." I instinctively lifted my worn and soiled cap as she turned from me, and then I was alone again.

Oh, why must the proud and wealthy ever insult the poor and humble? Had I ever done that governess any harm that she should insult me thus? But let it pass, for that vision of beauty and grace and innocence lived with me then, and will live with me forever. It was daguerreotyped on my mind in all its glowing colors, indelibly.

I walked back to the shop like one in a dream. I felt not the heat, I thought not of distance; my brain was filled with romance, for my heart beat with the warm blood of youth.

I do not know but what I loitered somewhat on the way; at all events, I was scolded long and sharply by Mr. Higgins for being gone so long, and I lost my dinner in the bargain. But what cared I for food; I lived on that fairy vision for days, for weeks afterward.

I watched every odd job that came in for a long time after this, hoping it might be from Judge Hammond's, and a dread feeling of disappointment would creep over me when I found it was from some other place. A month passed by, and I received my suit for the winter, and, as the boss growlingly told me, the last one I should ever receive from him. The consequence was that the following Sunday I could appear in a respectable dress, for it was new at least, and so after breakfast I concluded to walk out by the judge's house. Fortune seemed to favor me, for as I was passing the gate, I saw the lovely creature and the same governess who was with her before, coming down the walk. I passed on until I heard the gate close behind them, then turning, I slowly followed in their steps. They passed on down several streets until they reached the Episcopal church, a neat gothic temple, situated in a retired and pleasant part of the town. Here they paused for a moment and then passed in. After a few minutes, I entered also. It was the morning Sabbath school, and taking a back seat I scanned the different classes of neatly

dressed, happy-looking boys and girls, until I detected the object of my search. During the exercises, the superintendent came to me, and asked me to join a class, but I excused myself, for I was too poor for that costly church and wealthy congregation, and I was too sensitive to place myself in a position to be noticed and talked of by the children of our village aristocracy. For weeks, or until my clothes were soiled by every-day wear, I visited that Sabbath school every Sunday morning. To say that I worshipped that bright and beautiful creature, would not exaggerate my feelings. In the language of one of your authors that you are so fond of repeating,

> "She was a spirit of bloom, and joy, and freshness,
> As if Spring itself were made a living thing,
> And wore her shape."

It was an enthusiastic and romantic boy's first love, and may appear sentimental and foolish to the ears of some, but to the warm, true heart it is the one oasis on which we love to look from the pinnacle of age, as we sweep our vision backward over the sandy desert of life. It was a blessing to me, for it proved my salvation.

Previous to my first meeting Estelle, I had become acquainted with most of the village boys who, like myself, were learning trades or earning their living in other capacities, and I was beginning to pass my evenings in their company, for home, if indeed Mr. Higgins' house could be called home, had no attractions for me. But now all was changed. I was filled with ambition, and sought

> "To rise out of the prison of my mean estate."

With the little money I obtained by an occasional job of overwork—for I was now working at the bench—I bought a few books, and every evening I passed in my room, reading and studying. Fortunately, one of the jours, by the name of Harris, was very well educated and well read, and to him I applied for such assistance as I needed. He gave it kindly, and I prospered rapidly. As I did not have the money to buy books as fast as I needed them, I sought the acquaintance of a young village lawyer, and borrowed from him. The six months that followed were not only the happiest but the most profitable of my life. Harris not only assisted me in my studies, but in the shop he gave me many valuable instructions, so that I was learning my trade rapidly. Six months passed thus, and then an event occurred that caused me to become a wanderer, without a home or friend in the world.

The spring dawned upon us—those soft, genial days of bursting buds and opening flowers,—when I learned that Estelle was very sick. I learned it from the lips of a servant, who told me that she had caught a violent cold a week previous, while returning late at night from some party among the wealthy classes, and was now confined to her room under the doctor's care. The doctor was a kind-hearted, social old man, and, as he often came into the shop to have his old-fashioned chaise repaired, I was pretty well acquainted with him. It was not long ere I found out that he visited his patient every morning, and sometimes in the evening. My mind was instantly made up, for I had naturally a bold and energetic disposition. Early the next morning, I gathered a bouquet of the most beautiful flowers I had access to, arranged them neatly together, and proceeded toward the judge's residence. It was not long before the doctor appeared, with his gold-headed cane and white gloves. Going up to him, I asked him if he was going in to visit his patient, and on receiving an affirmative answer, I begged him to present her my humble flower offering, without mentioning my name. Promising that he would do so, but not without a mischievous smile and knowing look. I left him, and proceeded to the shop. Every morning for nearly a month I gathered my flowers, and sent them to her by the same kind hands, and every morning I received the same stereotyped answer to my eager questioning, "No better."

One evening just at dusk I met the doctor as he left the house, who informed me that the crisis in her disease had arrived, and he was proceeding in great haste to his office for medicine and some surgical instruments, so as to be ready for any emergency. I accompanied him thither, and on our return I begged of him to let me carry one of his packages, and go in to see her. "Only once," I said with passionate earnestness, as I saw him hesitate; "only this once, for I do want to see her once more alive, and I know she is going to die, for she is too beautiful for this earth. It is the last favor I will ask of you, and you are too kind-hearted to refuse me." There was no withstanding my appeal, and he assented. With a noiseless step I followed him to her chamber. She was reclining, propped up by pillows in her bed, but so pale that I scarcely knew her. Her father was seated by her bedside, with his head bowed down in his hands. She was motherless. The governess was seated in a distant part of the room, while a nurse was busy over the fire, arranging some food for the invalid.

"A young friend of mine," said the doctor to the judge, but the latter scarcely noticed it.

"Well," continued the doctor, "how is my little patient by this time? Better, I hope." She slowly shook her head in reply. "I have brought a warm friend of yours with me to see you; at least, I should judge him to be by the number of bouquets he has sent you," and the kind-hearted man stepped back, and pushed me gently toward the bed.

"Is this the kind friend who has sent me all those beautiful flowers, every morning?" she said in a low, faint tone, almost a whisper. "I relished them so much, they were so fragrant and fresh. Oh, I thank you for them so much," and she held out her thin hand to me. I raised it tenderly to my lips, but said nothing. My heart was too full for utterance, and in another moment I was gone.

That night she died. I heard it next morning from the lips of the doctor, but I knew it from his looks before he spoke a word; yet I heard it with a good deal the same shock of agony that I imagine a condemned criminal feels when he hears his sentence of death. Everything passed in a confused vision before me. I tottered home, and into my room, where I remained the rest of the day. I attended the funeral uninvited and unknown, in the very rear of the procession; yet there was not a more grief-stricken mourner than I. When they had all left the silent churchyard, I went to her grave, and then the tears fell thick and fast as I wailed out in my agony of grief.

The next morning I was at my work bench again. I have before said that Mr. Higgins was a hard master. He was in one of his worst humors on the morning in question. Something had irritated him, and approaching my bench, with a scowl on his face, he ordered me to go out and wash off an old buggy. It was not my place by right to do it, for I was not the youngest apprentice; but as I was in no humor to refuse any request at that time, I merely

took the piece of timber on which I was working from my vise, and slowly turned to obey.

"Come!" he cried, "you have lost enough time here lately by your pretended sickness; so move along in a hurry, and make up for it, or I'll make you."

I stopped, and turning, looked him in the face, and then he struck me across the shoulder with a stick he held in his hand. It did not hurt me. I do not suppose he intended to hurt me, but it was a blow. I have said that I was proud, and all the pride and spirit of my nature rose up within me. He had struck me many times before, and I had passed on to my work, and said nothing. But I was a boy then; now something within told me that I was a man. Besides, his words, cruel and uncalled for, added insult to injury. I faced him boldly, and he was the first to break the silence.

"What do you mean by looking at me in that way? Do you not mean to obey me?"

"No, I do not," I replied, firmly.

"Then I'll horsewhip you," he cried.

"I dare you to do it," I answered.

He raised the stick to strike me the second time; but before he had the time to do it, I had wrenched it from his grasp.

"Minion! underling!" he cried, perfectly frantic with rage, and seizing the piece of timber I had just deposited on the trestle, he brought it down with tremendous force. Fortunately, the stick I had just wrenched from him acted as a guard against the blow, and broke its force, else it might have proved fatal, for it was aimed at my head. As it was, it struck me on the shoulder, and for an instant caused me to stagger. At that moment Mr. Harris and others came up and interfered, putting a stop to all further belligerent proceedings.

"I will make you suffer a thousand-fold for this, my boy," said Higgins, as he passed out of the shop.

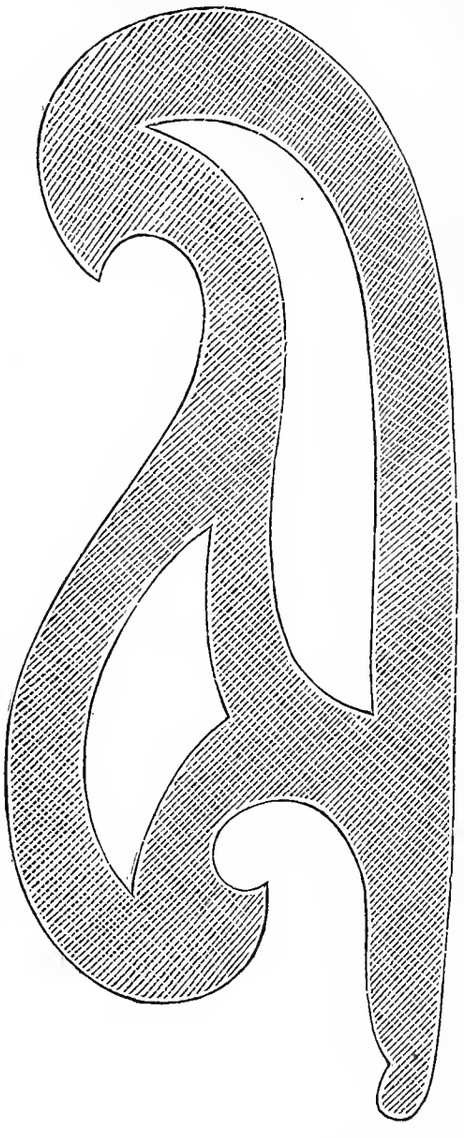
For a while, there was nothing else talked about but my fight with the boss—the apprentices all wondering how I had the spunk to resent him, while the jours all boasted of my spirit, for Higgins was thoroughly disliked by all. But after the talk was all over, I had time for reflection. I well knew that Mr. Higgins would carry out his threat to the very letter, for he had every advantage. I was a slave, and he was my master. As for law and justice to a poor orphan boy like me, it was the merest nonsense. My apprenticeship had been hard enough thus far; now it would be unbearable. My mind was soon made up. I had a good use of tools, and a general knowledge of my trade. I put in the day, but did not work much, and when night came I packed up what few books and clothes I had in a neat bundle, went to the churchyard and dropped a few flowers and tears on poor Estelle's grave, and then took the road to New York.

(*To be continued.*)

SWEEPS FOR SCALE DRAFTING.—I.

IN the first volume of THE NEW YORK COACH-MAKER'S MAGAZINE, we published a series of lessons in scale drafting, from our friend, Joseph Irving, Esq., which were well received, and have been popular ever since. The volume may still be had, unbound, for three dollars, or bound, for three and a half, at this office. When sent by mail, four dollars, postage paid. These lessons having been written and illustrated by a practical carriage-maker who is himself a good draughtsman, they will not fail to give full satisfaction to every young beginner who practices and follows out the instructions there given.

As a supplement to the lessons referred to, we propose to furnish the young practitioner with some of the sweeps he will require in scale drafting, at a cheap rate, if he makes them himself. To do this, you have only to procure from the cabinet-maker a fine-grained piece of rosewood veneer, and transfer our design to it, either by pricking through the paper on the veneer with a pin, or which is better, by tracing the outlines with a pencil on transfer paper laid over them. To convey these to the veneer, is very simple. Turn the pencilled side over, lay it on the veneer, and retrace the lines on the back with some pointed instrument—say hard wood,—then remove the paper, when, if properly done, you will find lines sufficiently plain to guide your penknife in cutting the sweeps to the desired shape, as shown in the diagram. When the sweeps are reduced to pattern, then file off the edges or corners, so as to leave them rounding, else they will trouble you afterwards, when you come to use a pen, by blotting the paper.



SWEEPS FOR DRAFTING CARRIAGES.

BODY-MAKING BY MODEL.

BY A BODY-MAKER.

I SUPPOSE there are but few carriage manufacturers in the country who do not occasionally attempt something new in the form and construction of carriages. Some of the attempts result in success, while many prove to be failures. The shop that can turn out a new style of carriage,

more graceful, tasty, and pleasing to the eye, than any before made, is pretty sure to meet with more ready sales and a better profit, than a shop that is content to merely copy after others; hence, so much study for improvement in design, and gracefulness in form.

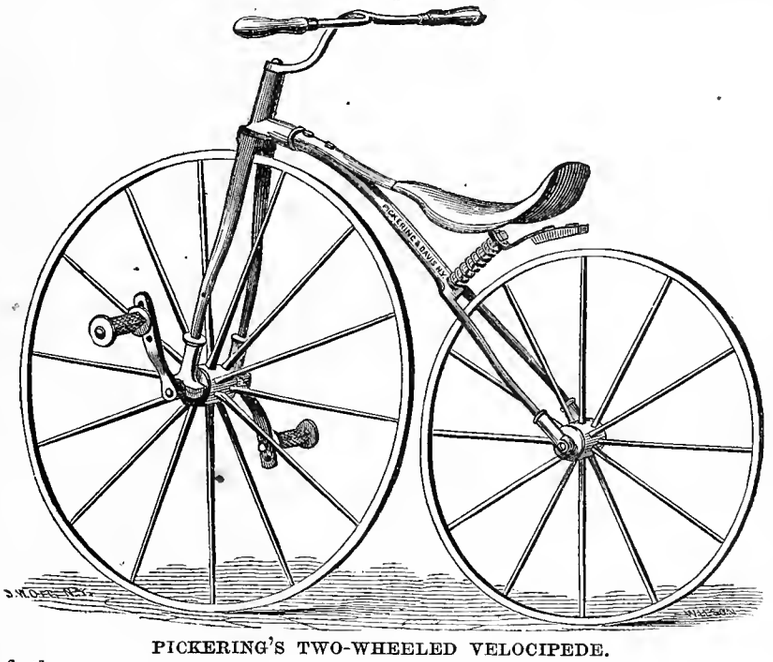
The new style, or pattern, is first pictured in the mind before the author proceeds to give it form and substance, the first proceeding of which, is generally to make a draft, first of the body, and then adapt the other parts to it. The draft is made with great care, altering a little here, and changing the "sweep" there, until it *appears* to be about right. A friend is called to look at, and pass judgment upon it. This may result in further alterations, and then the conclusion is arrived at "to build one and *see* how it looks." The patterns are made and body built, when it is often found that it does not appear just as it did in the draft, and requires changing to make it perfect; so the patterns are altered and another body made, but in order to save the capital invested in the first body, it is ironed, painted, and trimmed, but results in an imperfect job, with which the designer does not feel satisfied. Now, if there is any way to avoid these imperfections in form, of first jobs, some way in which they can be seen before built, just as they will be after built, it were well to know it.

It has been my practice, sometimes, to imitate the ship builder, who, when he attempts to build a ship of improved form, first makes a model upon a reduced scale. The model is made of boards of uniform thickness, glued one upon the other until the desired height is obtained. The thickness of these boards represents a certain number of inches in the full-sized ship that is to be, and there should be a slight difference in the shade or color of the wood, so that the line where they are joined can be easily traced. Out of this block of wood, formed by boards joined together, the ship builder shapes his model, cutting away little by little, until the picture "in his mind's eye" is perfectly represented in the model. Now, to construct a large ship after the model, and in the same proportion, the builder works by "the square rule." The model is split perpendicularly through the centre from stem to stern, and the builder uses only one half of it. The flat side of this half represents a straight line the whole length of the ship and from the keel upward. Now, the square rule is nothing more or less than working from straight foundation lines. With this perpendicular line from stem to stern, and the horizontal lines made by the joining of the boards one upon the other, for his base, the builder lays out his working draft, and can determine the exact shape of every timber in the ship.

The carriage body-maker can do the same thing, and by so doing can avoid many of the imperfections in form and proportion of first jobs. I shape my models of bodies on the scale of one and a half inches to the foot. If my body is to be six feet long and three wide, I take boards nine inches long and four and a half inches wide and usually half an inch thick. Some may prefer one quarter inch in thickness. Glue these boards, one upon the other, until the desired height is obtained. From this block shape the model, cutting away, until the ideal is represented in the reality, and satisfies the eye as to form and proportion. To build a full-sized body after this, split the model perpendicularly. This split will represent the centre line. In laying out the working draft, if the boards in the model are half an inch thick, lay down horizontal parallel lines on the draft board, four inches apart. These lines represent the joints between the boards in the model. Now, with rule, square, and crayon, outline the side draft on these horizonatal lines, and fill in between by the eye. The end and ground draft is made in the same way, using the split in the model for centre line. Make the patterns by the working draft, then proceed to build the body. Bodies made after a model in this way, will be more apt to be perfect in form and proportion, than first jobs made after a draft merely, because models represent the reality just as it is, while drafts upon a plain surface do not always.

PICKERING'S VELOCIPEDE.

Velocipedes are getting to be much in use in New York city, and the probability is that they will become very fashionable in other sections of the country the coming spring. Already many of our carriage-makers have engaged in manufacturing them, with a prospect of doing a successful business. Among them are Messrs. Wood Brothers, J. M. Quimby & Co., and others. Several improvements upon the French machine have beenmade in their construction, and patented, as our Patent Journal



PICKERING'S TWO-WHEELED VELOCIPEDE.

shows. The accompanying illustration is from a design by T. R. Pickering, of New York city, and differs in several points from the French, as a comparison with the one on plate 24 in this volume proves, the former being much more simple, lighter, and stronger, and far cheaper. Unlike the French machine, Pickering's connecting irons are made by gage in portions, so that when these break, or wear out, they may be replaced by others at short notice. The bearings being made of gun metal and the frame-work tubular, both lightness and strength are obtained in the construction. The back wheel is boxed with metal, the axle supplying its own lubricant. It will be seen that the handles for steering are thrown much further back in the American than in the French, making the steering operation much more convenient and easy. The stirrups are three-sided with circular flanges at the ends,

so that, in revolving, one of these sides will always be in proper position for pressure from the feet. This also allows the use of the fore part of the foot, leaving room for the ankle joint to play, rendering propulsion much easier. In Pickering's machines the long spring for the rider, with its accompanying braces, are dispensed with, the saddle being supported at one end by the reach, and at the other by a spiral spring, on the top of which is fixed a brake. A slight pressure of the tiller forward, and a backward one on the rear of the saddle, brings the brake against the periphery of the wheel, thus stopping the motion of the machine at will. These machines are made by Messrs. Pickering & Davis, 144 Greene street, New York; to whom we are indebted for the accompanying engraving.

SCREW-DRIVERS, ONCE MORE.

BY JOHN B. PEEK.

MR. EDITOR: I see in the Magazine, volume IX, page 132, an inquiry made of me by your correspondent J. A. H., in regard to screw-drivers. Various engagements have prevented me from replying hitherto, and, besides, I have been waiting patiently for some other correspondent to answer him. I now take the opportunity of answering your correspondent, and explaining the theory or advantage derived from a long screw-driver, and, at the same time, of correcting a false impression in regard to the word *deviation* used in my first article.

If your correspondent has read THE NEW YORK COACH-MAKER'S MAGAZINE with as much attention as I have, he will recollect the theories put forth in regard to the length, elasticity, and perpendicularity of the screw-driver, as far as they have been advanced and recorded in its pages. He will also find, on page 70, volume IX, an experiment made in answer to "Raw Hand," which, I think, very nearly approximates to those which "J. A. H." propounds. I beg leave to doubt that any considerable difference in the solution of his theory would be adduced, except it be in favor of the extended screw-driver, thereby proving that elasticity as well as length has much to do with its efficiency, and must still think it unnecessary "to insure the application of the power directly in line with the line of the screw to pass the blade through a fixed collar or holder," for it is to be supposed that a man will hold his hand steady (unless told to make allowance for the contrary), then there will be no line of deviation from a direct line with the screw, except from a right line to a circular one.

You will notice, on page 34, volume IX, that your correspondent, "Body Maker," in referring to my article *garbles* it, thereby destroying the full sense and meaning of the word deviation; thereby misleading the reader. I said: "It is obvious that the greater the deviation of the screw-driver from the direction of the screw the greater must be its power, that power being proportionate to sine of the angle," or, in other words, "the distance between the end of the handle and the line of direction of the screw acts as a lever;" this being left off, as I suspect purposely by "Body Maker," which, if inserted, would have given a partial definition of what I meant by *deviation*. It is not my intention to convey the idea that I hold my driver with a deviation from a direct line with the line of the screw, as asserted by "Body Maker." On the contrary, I am very particular in holding it directly in a line with the screw. If these experiments are continued by your correspondents, the measure of elasticity will be found to be *one* cause, and the perpendicularity of a long screw-driver another, of increased power, assigned heretofore in my articles. It is not the only reason, I admit, but these certainly are part of the cause of the increased effect alluded to. No doubt, these arguments will appear too childish for such a giant in science as my adversary, "Body Maker," appears to be, but it will require more than declamation to *screw* into my brain or that of any one who has been in the habit of using screw-drivers, the idea that my reasoning has nothing to do with the question.

But perhaps your correspondent, "J. A. H.," will claim that I have given him no direct solution of his proposition. I think, for my part, I have given him one which answers all practical purposes; for, in my opinion, a blade sixteen inches long would be unwieldy, although I have a friend who uses a blade eighteen inches long, and also elastic (the handle being of an ordinary size), with such effect that he never uses a brace and screw-driver bit for the heaviest screws. For my part, I am satisfied to use a blade from eleven to thirteen inches in length.

Therefore, if I have not given "J. A. H." a satisfactory answer, he must remember that it is well known to philosophers that there was a time when the laws of the moon's motion were so inexplicable as to defy all human attempts to reduce them to simple principles capable of application in predicting her future position for any given length of time with exactness. The same could be said of the tides, the orbits of comets, and various other particular parts of astronomy and science, as well as natural philosophy. But, by the unwearied diligence and researches of a few profound mathematicians, this uncertainty now no longer exists. There are indeed few things of this kind that cannot by degrees be brought to some system. Empiric modes are first applied to explaining and computing the several motions; then, by investigating, comparing, and gradually approximating to the observations, we come at length to causes which rest on established principles, and, ultimately, every apparent anomaly is accounted for by a reasonable and satisfactory theory. I claim that I have established the principles of length giving elasticity, also a perpendicularity, to the screw driver; hence, comes the efficiency of the instrument in question. Fearing I have spun out my communication to an inconvenient length, I hasten to a conclusion, and remain, sir, your constant reader.

Pen Illustrations of the Drafts.

SIX-SEAT ROCKAWAY.

Illustrated on Plate XXXIII.

WE think this original design will meet the wishes of our friends both in lightness and convenience. Leaving out the front standing pillar, is an improvement over the one we published on plate 9, volume VIII. For winter travel this vehicle requires a shifting glass front, separating the two forward seats. The middle pillar, after the coupé pattern, gives this design a decided advantage over any other which has fallen under our notice.

For this carriage there is no color, in our judgment, equal to patent black, notwithstanding others may differ in tastes; nor for trimming can there be found anything better than cloth in indigo blue. Wheels, in this instance, are 3 feet 2 inches, and 4 feet 1 inch high; hubs, 4½ by 7 inches; spokes, 1⅛; rims, 1⅛; tire, 1 inch. Price, $1,000. The rule for building will be given next month, when we may have something more to say about this carriage, which we look upon as one of the best American art has ever produced.

TWO-SEAT PHAETON, OR DRAG.

Illustrated on Plate XXXIV.

This phaeton is intended for lightness, and has in it all the latest points of the Paris fashions. Our artist has put the front seat on a very slight foundation, which the builder will alter to suit his own taste. The fancy work on the door may be best done in paint. The wheels, 3 feet 2 inches and 3 feet 11 inches high, should have hubs about 4 by 6½ inches, spokes 1 inch, felloes 1 inch deep, and tires ⅜ by ¾. The New York prices of this phaeton are $900 and $1,000.

FOUR-SEAT STANDING-TOP WAGON.

Illustrated on Plate XXXV.

Our design on this plate answers the purposes of either a depot wagon or a family carriage. The front seat is made to turn over, and, with the exercise of a little ingenuity, its place may be supplied with the back one, for the comfort of two passengers. The door in the side, not usually furnished to this kind of wagon, will render it very convenient for the entrance of ladies. The great mistake with most builders is, they neglect to properly strengthen the corners of the roof with plates, and consequently they soon give out when submitted to the shakings of rough roads. Plates should be provided of the best Norway iron, and well secured to the wood on the *inside* with screws. Wheels, 3 feet 11 inches and 4 feet 1 inch high; hubs, 3½ by 6½; spokes, 1 inch; felloes, 1 inch; and tires, ⅞ by $\frac{3}{16}$, steel. Price of vehicle, $450.

FOUR-SEAT OPEN BUGGY.

Illustrated on Plate XXXVI.

This buggy is so well *described* in the design that we need say but little about it, more than to intimate to those who do not care to forge the scrolls under the seats, that they will find just the thing provided for them by the Messrs. Lintons, of New Bedford, Mass., whose advertisement will be found in its proper place in this number. The "seat risers," already made, cost only $2 the pair. Wheels, 3 feet 11 inches and 4 feet high; hubs, 3½ by 6 inches; spokes, ⅞; felloes, 1 inch; tire, ¾ by ¼, steel. Price of buggy made in New York, $450.

Sparks from the Anvil.

SETTING TIRES WITHOUT HEATING.

Auguste Colas, of Paris, has recently invented a new mode of applying tires to carriage wheels, whereby he claims that the injurious effects to the felloes, caused by charring, and the injury caused by first heating and afterward cooling of the iron, are entirely avoided. His plan, in lieu of first expanding and then contracting it after it has been adjusted on the wheel, is, to leave the molecules of the iron in the tire, in a state of perfect rest, and to produce a contraction and expansion in the wooden portion of the wheel; thus, in effect, reversing the usual mode of proceeding. To do this effectually, he has provided a circular platform, the upper surface of which is dished, or inclined down toward the centre, so as to admit the hub and dished spokes, with the face of the wheel upward. To this platform are jointed a number of levers, the upper and shorter ends of which serve to compress radially the wheel, which is laid horizontally upon the platform, whilst the longer ends bear against the fixed portion, or main standard or support, of the apparatus. With this standard there is formed a hydraulic cylinder, and into this works a ram, which supports the platform above referred to. On forcing liquid into the hydraulic cylinder, the platform will be elevated and the levers will compress the parts of the wheel together. In this compressed state the wheel is screwed firmly down at its centre to the platform, and is maintained in its compressed condition by the inclination of the platform, even after the compressing levers are released. The tire is now slipped on, and the wheel is then allowed to expand again, thereby effectually securing the tire in its place without the application of heat.

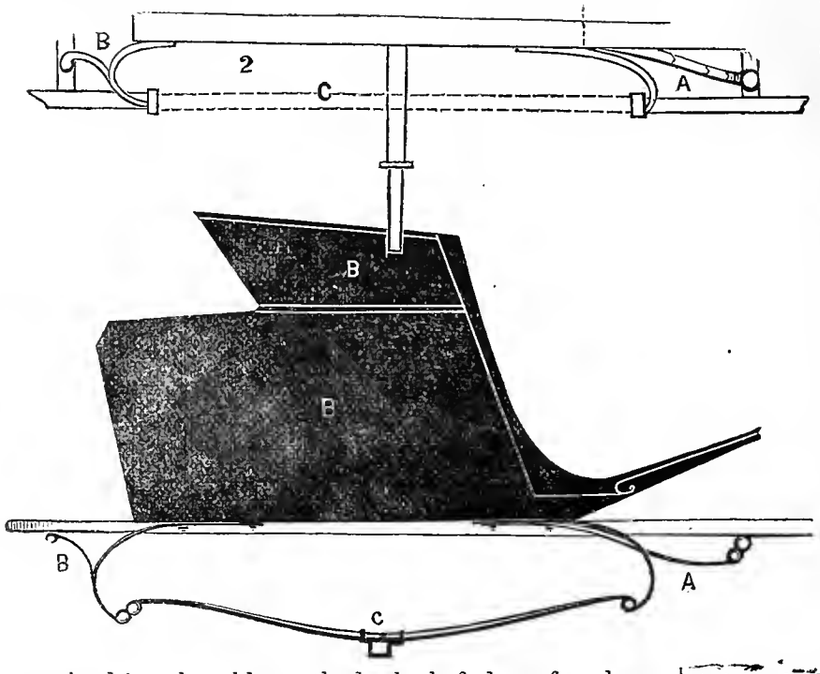
NEW MODE OF WELDING METALS.

The following is brought forward by Mr. Bernard Lietar, of Brussels, as "an improved method of welding iron upon iron, steel upon steel, and iron upon steel":—"1 kilogramme of filings of iron or steel; 100 grammes of salt of ammonia; 60 grammes of borax; 50 grammes of balsam of copaiba. Calcine the whole and reduce to fine powder. For an ordinary solder one of the pieces of iron or steel is heated to a red heat, and after the part to be soldered has been carefully cleaned with a file or wire brush, the above composition is spread upon it, and the second piece at a white heat, is immediately placed upon it and welded together."

CHECK TO SPRINGS IN TWO-WHEELED VEHICLES.

In this article we design to show the mode of constructing a cradle spring, so that when it is applied to a gig or other two-wheeled vehicle, the motion received from the movements of the horse may be properly checked, and riding rendered comparatively easy.

In the diagrams, the front elbow springs A, in both figures, are secured to the front of the body, the front ends of the springs being connected with the draw bar of the shafts by shackles. The hinder part of the spring is secured by the stay B, connecting with the body and shaft at top, and with a shackle at the bottom. This stay (B)



is received in a knuckle on the back shaft bar of such peculiar form as to permit the shafts to play up and down without straining the irons.

The spring C is clipped on to the axle, just the width of the shaft. To do this, the loops, which are all fastened to the body, must be flared out somewhat, so as to make a connection with the springs, as shown at figure 2.

An axle one and a quarter inches square would be considered very light for this kind of a job. A four-plate cradle spring one and a half inches wide, and a three-plate one-and-a-half inch elbow spring, will be required to complete the work. Wheels, 4 feet 6 inches high. To give a nice balance to a gig when loaded, the axle should be placed about one-third the width of the seat from the front.

Paint Room.

HINTS FOR USING ENGLISH VARNISH.

BY J. S. LEGGETT.

AMONG the numerous mechanics throughout the country, there are but a limited number who have acquired the ability of using English varnish with success. Even these, at times, return from the varnish room with a sad countenance, for they have failed to obtain the desired result, although the imperfection might remain unnoticed by any but those acquainted with the business. Varnishing requires time and attention. A person of dexterity who cultivates a refined taste, will be most likely to succeed. To him labor is a pleasure. He who is wrapped in narrow self interest, working for money only, not caring to advance in his trade, but always hoping for the day to pass rapidly away, and for the night to bring speedy and welcome release—such are dragging a long and tiresome existence that seems too disagreeable to endure. Perhaps, some may think I am drawing an exaggerated picture, but as I am writing for a volume that is supposed to uphold honesty and expose fraud, as well as to stimulate genius and extend the latest fashions to carriage builders in the most remote parts of this country as well as others, it is necessary I should bring some facts before you as they are, regardless of the consequences. Again, experience gives confidence, confidence helps to execute. Those who commence to varnish, trembling with the fear that they will not succeed, will not be apt to do so, any more than would the surgeon who approaches his patient, nervous and excited, for the purpose of performing an operation. A person to become a good finisher requires confidence in his own ability, otherwise he will be as likely to draw his brush over a panel three times where once only is necessary, or apply his varnish too lightly to make a good finish.

In varnishing, lay on the varnish somewhat heavy, and even. The less you brush it the better.

If English varnish is applied heavy, it will for a time look wavy. Those not acquainted with it will endeavor to correct the runs, and ten chances to one they will spoil the job. Had it been laid on level, and the room not too warm, undoubtedly it would have flowed on, which is characteristic of its nature.

Some workmen recommend a day for varnishing when the atmosphere is dry, others when it is damp, but, as circumstances will not at all times permit us to choose the day, we cannot be governed by that. If there is less dust when the earth is overshadowed with darkness and the air filled with moisture, why not put the room in something near the same order. Dampness has a tendency to fill some varnish with little pits. I am using Harland's, and have no trouble in that way. Some keep their brushes for finishing in raw oil, others wash them in turpentine before using. I don't approve of either. In the first place, you cannot press all of the oil out from the brush, and it will hinder the varnish from drying. In the second place, if you wash them in turpentine, you will invariably find the finish not free from dust. Keep your brushes in a close can, suspended by wires attached to the inside, in clean varnish, the same as used for finishing, and never wash a brush before using.

The finishing room ought to be very close, with hard, finished walls, and glass stained or frosted, to prevent the too bright rays of the sun from penetrating. Curtains should be suspended from the top of the windows with proper fixtures, so that the room may be darkened still more for reasons hereinbefore stated. The floor should be clean and thoroughly sprinkled; a temperature of about 60° or 65°, not to exceed 70° if the heat be artificial. A writer has stated that "the temperature should be about 80°." I cannot agree with him there, for this reason: the extreme hot and dry air rising from the stove at such intense heat, mixing with that of the damp and cold has a tendency to keep dust in circulation, and it will also make the varnish set too quick and cling to the brush as you are applying it to the body. Previous to varnishing, the job ought to be washed twice: the first time, use a water brush freely in order to remove the pumice, from corners and around mouldings, that might have have been left there by an inexperienced rubber; the second, merely rinse off with clear water, being very particular to wipe lightly, not to

leave any lint from the chamois. Dust with a duster only used before varnishing. When you have the job finished drop the curtains with care and leave the room undisturbed until the varnish has set free from dust, after which, give it all the light you can, but do not expose it to the sun or air until it has remained forty-eight hours drying from the time the job has been varnished.

PAINTING ON A ZINC GROUND.

Every painter is aware of the difficulty experienced in making oil colors adhere to articles of sheet zinc. Professor Boettger, however, has recently published a process by which, it is stated, the desired result can be accomplished; this process consisting in the previous application, by means of a hard brush, of a mordant, composed of one part of chloride of copper, one part of nitrate of copper, one part of sal ammoniac, and sixty-four parts of water, to which is afterward added, one part of hydrochloric acid. Under the mixture the zinc turns to a deep black color, changing, after drying twenty-four hours, to a dirty-looking black, or grayish-white shade, upon which any oil color once applied will adhere with the greatest tenacity.

ORIGINAL MONOGRAM.

Illustrated on Plate XXXVI.

We continue our original series of monograms, this month, in the hope that they may prove useful to our readers, either as studies or for transferring to the panels of carriages. Next month, we intend to furnish a specimen adapted to physician's use. We claim for our series a superiority over all others heretofore published in this country, and hope soon to be able to say something about shading them, from the pen of the contributor who has so kindly favored us with these designs for several months. Such observations, we are fully convinced, will prove very acceptable to the novice in this special department of coloring, as well as older practitioners.

Trimming Room.

OILING HARNESS.

Having seen numberless processes in your valuable paper, for preserving and cleaning harnesses, I would like to add my experience to the list, if worthy the space it occupies.

In the first place, I subject the harness to one or two coats (as the leather may need) of lamp-black and castor oil, warmed sufficient to make it penetrate the stock readily. Then I make about two quarts of warm soap suds and with a sponge wash the harness. When dry, rub it over with a mixture of oil and tallow, equal parts, with sufficient lamp-black to give it color, or, what is better, prussian blue, which gives it a new and fresh look. This compound should be applied sparingly and well rubbed in, which can be quickly done and will leave a smooth and clean surface.

The advantages I claim for this process are these:

First. By saturating the stock in the first place with oil, the soap and water are prevented from penetrating it in the process of washing. When leather is permitted to absorb water or soap, it has an ultimate tendency to harden it.

Second. When the harness is washed *first* (as is generally the case), the water repels the oil; consequently, in the one case you have the oil inside the stock, and in the other you have the soap and water.

Third. By oiling first it softens the dirt, so that it can be washed off in at least one-half the time required when washed before oiling, and also saves the "scraping" process which defaces the grain of the leather.

Fourth. It will remain soft much longer from the fact of its being penetrated with oil.

Fifth. The whole process can be accomplished without the delay of waiting for it to dry.

Consequently the harness can be cleaned and oiled in much less time, will remain soft longer and look better, than when cleaned by the old method. And I consider these reasons of sufficient importance for every one having a harness to give this method a fair trial.—*Scientific American.*

DRAFTING TOP JOINTS.

Our readers ought to be well posted on this subject by this time, for we have given several articles showing how to do the thing scientifically and correctly, in this volume. There may be some other plan superior to friend Peek's, not yet published. Should there be, we hope to have it for our pages, very soon.

Meanwhile, some interest is still felt in relation to the shrinkage of tops between the two back bows. All the inventions thus far patented, have one very serious objection to them—they do not allow the heads to lay down flat when thrown back, as in the old way. To obviate this difficulty, there is now some experiment going on, the result of which is favorable to a complete revolution in the arrangement of the joints, and success of the undertaking. We shall, at a future day, give our readers such details as it will not be prudent to divulge at present.

FITTING COLLARS TO HORSES.

Some of our readers deal in harness in connection with carriage making; to such, the following will be useful:—It is very important to have a collar fit nicely and snugly to the shoulders of the horse. It enables him to work with a great deal more ease, and to apply a great deal more strength. It prevents galling and wounding, as the friction is avoided. Collars are so made, or should be so made, as to throw the chief force on the lower part of the shoulders. The horse can apply but little strength on the upper part, and for this reason breast collars are coming greatly into vogue; as the strength is exerted on the lower part of the shoulders. But we started out to tell our readers how to make a new collar fit the shoulder of the horse. The collar should be purchased of the proper size. They are usually too large. If obtained of the proper size, just before putting it on, the first time, immerse it in water, letting it remain about a minute, and immediately put it on the horse, being careful to have the hames so adjusted at the top and bottom as to fit the shoulder, and then put the horse to work. The collar, by being wet, will adapt itself to the shoulder, and should dry on the horse. When taken off, it should be left in the same shape it occupied on the horse, and ever after you will have a snug-fitting collar, and no wounds.—*Valley Farmer.*

Editor's Work-bench.

THE LATEST SENSATION.

INQUIRIES still crowd in upon us, in relation to building velocipedes, from every section of our country. Many have gone to work at building them in earnest, while others have the subject under serious consideration, fearing to build, lest the excitement may die out before they can profitably get at it. In this state of affairs we are often asked our opinion in the matter, which, we confess, we hesitatingly give, not knowing how long the sensation in regard to them may last. No doubt, those who are too lazy for work will soon discard them, for, unquestionably, propelling a velocipede *is a good deal like labor*. If then, these ever come into general use, the middle classes must sustain their popularity, for poor people cannot afford such luxuries, and the rich, who are able to keep a carriage, cannot *afford* to expend their energies in motive power upon such—to them—questionable pleasures.

Meanwhile, we hear of favorable reports from the localities where the velocipede has already been introduced. For instance, the Messrs. Wood Brothers, of Bridgeport, Conn., were about the first to introduce them into this country, and now, we learn from a local newspaper, that the city is all alive with young practitioners. If then, you desire a market, it follows that you must create one at home by first introducing the machine.

As before stated in these pages, there is some excitement in this city on this subject, many schools having been instituted for teaching and practicing the art of using the velocipede. It has even been proposed to erect an elevated railway over the houses, extending from the lower part of the city into Westchester county, so that gentlemen residing out of town may be provided with convenient means to do away with the imposition of railroad incorporations, and thus be their own "masters of the situation."

Now, that the fever is raging, it is wonderful to listen to the stories of *antiquarians* on the subject of the velocipede. The *Press*, published in Paterson, N. J., says, that Mr. Leonard Chadwick, of that place, has for many years been propelling his velocipede over the execrable pavements, carrying pretty heavy loads and making good time. Mr. C. boasts that on a good road he can pass any carriage horse that travels, and has often gone on the plank road from Paterson to Hoboken in two hours.

These machines of the hour, so popular on the land, are likely to be transferred to the water. The latest style of these *water velocipedes*, consists of two floating tubes of tin in the shape of cigars, connected by two bars of iron, one of which supports the wheel. This wheel—there is but one—is moved by pedals, by the rider's feet. This rider, sitting on a seat just behind the wheel, is said to be able to drive his machine at the rate of six or eight knots an hour. Where this thing will end is an unsettled question. Meanwhile we shall endeavor to faithfully chronicle every new phase in relation thereto, as it comes up.

CIVILIZATION AND CARRIAGES.

No one at all learned in history, can for a moment doubt the fact that civilization and carriage making have gone on, hand in hand, from the earliest dawn of mechanism down to the present age. It is true, there have been periods when both were seemingly obscured by ignorance and superstition in certain localities; but in all times, since the days of the Pharaohs, there has still remained some bright spot on the earth's surface, where art has been nursed, cherished, and admired.

Going back to the days of Egypt's prosperity, when, as we have reason to believe, the arts and sciences first took a decided form, we find vehicles of some kind in countless profusion. These answered for business in peace, and service in war. Homer gives us some idea of their importance, when he assures us that the Egyptian monarch could at any time send out two hundred chariots from her brazen gates, against her enemies. Sacred history confirms all that profane authors have told us of Egypt's renown; that this renown, in a great measure, was secured by her powerful armies, and that the power of these armies lay in their war chariots. Our readers have learned something of these from an examination of "Our Egyptian Carriage Museum," and, therefore, we need not further discuss this subject here.

Egypt being the acknowledged centre of civilization and art, it was very natural that such illustrious men as Homer, Pythagoras, Plato, and others should travel into that country for the purpose of completing their studies, and, in their return home, carry with them a certain degree of refinement, which served to stimulate Grecian artists to emulate her powers. With how much greater lustre the art of chariot building subsequently shone in Grecian history, our readers will be qualified to judge hereafter, when we come to place the facts before them in consecutive chapters.

Although the Attican carriage walhalla excelled the Egyptian in numbers and variety, yet it was far outdone by their successors, the Romans. Among these, carriages assumed numberless shapes, some of them not of the most classical form, yet answering as the crude designs of more modern studies, which have since ripened into the beautiful vehicles that everywhere now meet the eye. Whether these shall, hereafter, still improve, is a question of time; but that carriages have stood out in bold relief as the representatives of an advanced civilization among the most noted nations of the world, there can be no doubt. This will appear more fully in the history we have in prep-

aration, under the title of "The World on Wheels," which we intend to publish soon, by subscription. It will embrace the gatherings of many years of study, and treat of Egyptian, Assyrian, Grecian, Persian, Roman, Gallic, English, and American carriages, illustrated by numerous engravings. For this work we are now taking subscriptions—the price of which is five dollars—to be paid for on delivery of the volume. Please send along the names, that we may have some idea of the probable demand.

LEARNING A TRADE.

This article from our regular correspondent, "Porte Pencil," is so much to our liking, that we have assigned him *bench room* beside the "Editor's Work-bench." He asks: Why is it that the proportion of young men in this country who turn out badly, is so much larger than it used to be? Every moralist, and, in fact, every close observer, knows that the proportion of shiftless, good-for-nothing young men has largely increased within the last few years, particularly in the larger cities, but those who discuss the matter seem to be at a loss for the true explanation. In our judgment the question is one very easy of solution. We attribute it to the spirit of false pride, which induces parents to put their boys in stores and offices rather than to apprentice them to good trades. In all large cities, at the present time,—merchants, bankers, insurance men, and others of this class, are overrun with applications from parents who want situations for boys, but manufacturers find it almost impossible to get apprentices. It was not so in former times. Fifty years ago—much later, in fact—parents generally regarded a trade as something essential in the preparation of their boys for the battle of life. Even men whose circumstances did not require them to do manual work, made it a point to have their boys learn trades, in order to give them practical ideas about business, to make them industrious and also furnish them something to fall back upon in case of adversity.

How is it now? Mechanics (and laboring men, even), have too generally imbibed the idea that they ought to place their boys a peg above the drudgery of manual labor; they seem to think that they are not doing justice to them unless they place them in positions where they can wear "nobby" clothes, and keep their hands white. There never was a greater mistake. Look at the leading men in our country, from the President down, and you will see, that, as a rule, it is men who learned trades in their youth, who have become the foremost in every branch of enterprise and progress. The boy who is placed in a store or office generally gets his head full of vanity and self-conceit before he has been long in his position. He acquires an inordinate love of dress, and soon becomes so puffed up in his own estimation, that practical common sense can find no lodgment in his brain. His aim is to dress as well and live as high as those with whom he comes in contact, and he is quite likely to go from habits of extravagance to habits of dissipation. We do not wish to be understood as saying that this is the road which all boys travel, who do not learn trades. We simply say that such is the tendency, and it requires a boy of good mind, fortified by good early training, to resist the temptation.

The boy who is put to a trade, on the other hand, gives vanity but little chance to get hold of him. He acquires practical ideas about business, his habits are moulded by frugality and economy, and he lays the foundation for the character of a good, useful, and industrious citizen. The idea that manual labor is not "respectable," is one of the most absurd things in this age of absurdities. No person with a thimbleful of brains will say anything of the kind, and those silly, brainless creatures who do say so, are generally the degenerate scions of hard-working mechanics. Every boy, whether rich or poor, high or low, ought to learn a trade, not that he should always work at it, but that he may have it as a reserve capital, together with its influence in forming his character and standing in the community at large.

Before closing, let us add one word in regard to the girls. So firm has this idea of the want of respectability in labor fastened itself upon all classes, that now it seems that the great effort of those who are compelled to labor is to place their children, at least, in a position that they can live without work. The deluded mother, who spent her early years in "working out," or in hard labor at home, now educates her daughter in everything but work, and diligently labors to instill indelibly into her mind, the prevailing idea that work is disreputable, and only to be performed by menials; and if their condition financially is such that they cannot employ help, the mother does the drudgery, while the stout, healthy, robust daughter thrums upon the piano in the parlor, "Who will Care for Mother now." The honest mechanic who has gained a competency by labor and frugality, educates his sons for lawyers, doctors, preachers, bankers, or merchants, and the mother, her girls for wives of such men, and they both live to see an utter failure of their purposes, and have the mortification of supporting in idleness profligate sons and sons-in-law, if not made bankrupt by their excesses. This stamp on labor has been productive of its legitimate results.

We conclude this subject with the following, from a late number of the *Scientific American:*

The love of power and its exercise, the assumption of superiority in position and knowledge, tend to make tyrants of all men. But nowhere is the exercise of this disposition more unpleasantly seen and more unpleasantly experienced than in the shop. It is very hard for the boy, perhaps just from school, where his labor was merely that of the mind, and where, perhaps, he had the sympathy as well as the assistance of a judicious teacher in his tasks, to come

as an apprentice in the shop and accustom his untried hands to the hard substance of metals and woods, without his being compelled to bear the harder taunts, jokes, and witticisms of his seniors. Yet these he must, not unfrequently, bear. Instead of trying to make the apprentice's course plain, smooth, and pleasant, it is too often the case that the journeymen, otherwise sensible and considerate, encourage if they do not inaugurate a system of petty annoyances and petty tyranny, as disgraceful to their character as men as it is confusing and cruel to the victim. There is nothing manly in this. If it is designed to impress the novitiate with the superiority of the attainments of his tormentors, that end could be gained as readily by quietly pointing out his failures, and instructing him in his duties.

This victimizing of apprentices is a relic of barbarism, imported here from the old countries, England especially, where the lower class of workers seem to have the idea that brutality is the only proof they can give of their superiority over their inferiors. We have seen many cruel experiments tried by this class of men, who disgrace their nature and calling. Imposing upon ignorance, betraying confidence, and falsely swindling the trust given them, they take a demoniac pleasure in fooling, bothering, and annoying those they should be proud to instruct and assist.

To a lesser extent this course is pursued in almost every shop in the country. Where this spirit dares not be manifested openly, in the way of practical miscalled jokes, it is in either giving false information, or a refusal to give any; in a neglect of the common shop courtesies, and a supercilious manner and pretentious bearing. A miserably mean jealousy, born of a low spirit, is the source of all this nonsense. It does not pay. It impairs the confidence the apprentice should feel in the superior knowledge of the journeyman, tends to disgust him with his business and his future associates, and leads him to refuse to listen to the instructions of those wiser than he.

Possibly, before the time of his apprenticeship expires, he may learn to estimate these annoyances at their proper value, but it is more certain that the feeling engendered by the foolish tyranny to which he has been subjected will influence him through life. How much better for him, and more honorable for his seniors, that they gave him encouragement by word, and assistance by act, so that the young man striving to become one of the honorable guild of mechanics, should feel at once, in his introduction to a shop, a fraternal sentiment toward his fellow workmen, and be certain that any failures or mistakes he might make would be occasions of assistance from his superiors. The latter would lose no jot or tittle of their superiority, while the novice would be improved in his workmanship, his respect for himself and for his teachers. Deal justly by the apprentice, fellow journeymen.

GET YOUR CARRIAGES READY.

NEED we remind our readers that soon "the breezes of spring will revisit our land," and that, unless you "take time by the forelock" and get a supply of work made up, you may regret it when too late. Some mechanics imagine that it will be time enough to do this after it is ordered, but it will not answer for the carriage maker to talk thus. A certain class of customers, governed by impulse, never think of purchasing until the last moment, and then they must have the carriage right away—that is scarcely soon enough. There are others, again, who want to see the carriage ready-made before they can make up their minds as to what they will buy. Such men never order beforehand, and, unless you are prepared with the vehicles ready-made, so much trade, at least, is lost to you. Some of the best customers we have ever found have been of this class, with cash in hand to pay on the spot.

We would not advise our friends to go into new work "with a rush." Prudence should be used not to build unfashionable, and consequently, unsaleable, work; but to go into this matter thoughtfully and prudently. Make up the work of the best of everything, in both labor and material, as well as design, and, nine cases in ten, you will be safe.

MISCELLANEOUS NOTES OF THE MONTH PAST.

THERE are now several imported "Hansom cabs" running in New York, and it is rumored that more of the same sort are to be added from abroad. The fare is about thirty cents per mile.....Mr. Braddon, of England, says, that persons can be forwarded from one end of that island to another by rail, at a uniform rate of three pennies, subject to no further charges, and still pay. If so, will not carriages go out of use?....Dr. Ewer, in lecturing in this city, on "Life in Ancient Athens," told his audience, among other things, that a day's wages were about twelve cents, equal to about thirty-six cents of our present currency.....Velocipedes must be all the rage in Paris, since scarcely a periodical reaches us without an illustration and description of one.....The Robbins process for preserving wood was tried, the other day, in Concord, N. H., when, in nine hours, five thousand feet of green lumber were finely seasoned.....One of the superintendents of public works in New England, says that, "in so far as eight hours is designed to secure better intellectual culture among mechanics by giving them opportunity for study, it is a humbug. Some of his men work outside at over hours, and make from two to three dollars per day extra." ....The *Standard* "understands that the first carriage ever manufactured at Wood's factory (then Judson & Tomlinson's), in Bridgeport, was built about the year 1826, for Geo. W. Smith, now of Port Chester—it was an open buggy, not much like the elegant carriages built there nowadays."....Two old colored men, the "body servants" and carriage drivers of Thomas Jefferson, are still living in Ohio.....A velocipede, in the slang of young Paris is called a "velox."....The emperor of Russia's private coachman recently died. He was so highly esteemed by his employer that he was created a count, given a place in the council of state, and honored in many other different

ways.....A company in New York contemplate building a limited number of carriages, for public use in the Central Park, large enough to seat twelve passengers, all of whom they wish to seat facing forward. How to construct it is the difficulty.....One of the finest rule manufactories in this country is located in Pine Meadow, Conn. Mr. E. M. Chapin, the owner, employs from 75 to 100 men in making rules, planes, levels, gauges, &c.....Barnes & Spencer, of Birmingham, Conn., have a machine, invented by the junior partner, that turns out about one hundred and fifty rivets in a minute. The machine is a beautiful specimen of mechanism.....A Danish mechanic is said to have invented a velocipede to run on the ice, the wheels of which are shod with grooved tire, like the bottoms of skate runners, having a box behind for carrying provisions.... The emperor and empress of France are frequently seen driving on the Champs Eylsées, but not often in company, as to do so would break the rules of court etiquette. Napoleon generally drives a quiet turnout; a high hanging carriage drawn by two fast horses, wearing a gray overcoat, *a la* his uncle. The cortege of the empress is made up of three or four open carriages, each drawn by six horses, ridden by postillions dressed in uniforms of green and gold, the whole being preceded by a number of outriders with long whips to clear the way. In the first carriage, on the back seat, on the right hand side, sits the empress, and in the other carriages are the ladies of honor. On the left hand side of the empress, sits one of her majesty's equerries. With this equerry her majesty chats familiarly when not returning the salutes of the spectators. ....The most contented postmaster in the world is said to live at Petropavlovsk, in Kamtchatka, under a salary of three or four hundred roubles. There is only one mail during the year, and this sometimes fails in the transmissions. In that case he is without business for two years. ....A gentleman in Detroit has invented a street car to go by steam, showing neither smoke nor sparks, and moving as noiselessly as a sewing machine. In addition to this it is heated by steam pipes in cold weather.....It is said that all Paris is abroad on velocipedes after dark, and to prevent accidents an edict of the police compels the riders to affix a lantern to their machines....One of the latest inventions in France is a cheap hearse for the poorer classes, carrying the corpse, mourners, and priest.... Persons who teach the art of riding velocipedes are called "velocipedagogues" in Boston....When may a man be considered a poor vehicle for expression? When he is a little sulky....Paris green—the fellow who ran away with Helen.....The number of omnibuses in Paris is 587; in London, 670. The daily average in Paris is seventeen dollars, while in London it only attains fourteen dollars per omnibus. In Paris, the annual number of passengers amounts to 90,000,000; in London, only 45,000,000. The average daily distance run in Paris is 54,000 miles; in London, 27,000. The omnibuses in Paris employ 7,500 horses; those of London, only 6,300.....Two carriage builders in Cincinnati, Messrs. Geo. N. Gosling and Geo. C. Miller, engaged in making velocipedes, have been racing the one against the other—Mr. Miller coming off the victor, and obtaining the prize—a silver wine service.

TRADE NEWS OF THE MONTH PAST.

The Carpenters' Union, No. 5, of New York city, have passed a resolution, *demanding* from the bosses the recognition of the law that eight hours shall constitute a day's work, to go into operation after the first Monday in May, 1869. They say that now eight hours for a day's work, is only conceded them on Saturdays, at a reduction from $4 to $3.50 on the day.....Some of the more ambitious members of the National Labor Union, have recently held meetings in New York city, for the discussion of a number of important matters, which they purpose bringing before Congress, tending to the establishment of a Department of Industry for the enforcement of the eight-hour law, disposition of the public lands, and other measures, looking to the interests of the working classes.....The master masons, with a view of checkmating the unions next spring, are securing all the country non-society mechanics they can, to take the place of any who may strike. With these and the apprentices they have taken, they hope to fill up all vacancies caused by unionists hereafter. To meet this, the bricklayers' unions, relying upon "the righteousness and legality of the cause," supported by other trades unions, have demanded of the "masters" a recognition of the eight-hour law, and are confident of succeeding through political influence used in Washington this winter. With this in view, they are making a strong effort to induce all such men as have not yet connected themselves with a society to do so, that a full and favorable array of names may be presented to the National Union in January....The Operative Plasterers in this city, becoming offended at the conduct of two employers "who have *conspired* to injure this society and the interests of its members, by doing plastering without regard to the established rules and usages of the trade," have resolved that none of its members shall work on any job under their superintendence, nor for any one who, directly or indirectly, supplies said bosses with centre pieces, under penalty of expulsion from the society for so doing..... Certain members of the Cigar Makers' Union, in Kingston, N. Y., having quit work because a non-member, one Eugene Boyer, was employed there, and was prevented from getting work elsewhere, were complained of and tried for a conspiracy and convicted. Each member was fined $20, to stand convicted until paid. The trial cost the union $314.60. Appeal has been taken to the Supreme Court.

Patent Journal.

Nov. 17. (84,077) THILL COUPLING.—William Wallace Anderson, Camden, N. J.: I claim the steel spring *b*, in combination with the segments or arches *d* and E, which bear upon the shaft pin *g*, but do not touch each other, and with the screw bolt *a*, the whole arranged and operated substantially as and for the purposes herein set forth.

(84,145) LOG CART.—John Stitt, St. Johns, Mich.: I claim, *First*, The arm E, cast with hollow axle F, when constructed and operating substantially as described. *Second*, The weighted lever T, pawl S, and ratchet wheel R, in combination with windlass O, rope M, block N, and chain U, when arranged and operating substantially as described. *Third*, The combination of the above mentioned parts with the cross ties H, hounds I, pole J, braces K, hook L, bearing Q, evener X, and connecting rods Y, when constructed, arranged, and operating substantially as herein described.

(84,163) VELOCIPEDE.—E. K. W. Blake, Chicago, Ill.: I claim, *First*, The combination, with the driving axles, having the fixed ratchets C, of the loose pulleys B, actuating pawls, and propelling belts, the latter passing over guide pulleys at or near the front of the machine, substantially as and for the purpose described. *Second*, The combination, with the axle of the guiding wheel, of the slotted guide brackets I, swinging bearings K, adjustable foot rests L, and retracting springs M, all substantially as and for the purpose described.

(84,185) AXLE BOX.—Edward P. Haskell, assignor to the Hale Patent Washer Co., New Bedford, Mass.: I claim, for employment with axle boxes and washers, the hub plate *g*, constructed with the internally projecting ring or flange *h*, substantially as and for the purpose described.

(84,199, ante-dated November 9, 1868) WAGON TOP BOW.—S. C. La Halt, P. Listeman, and C. Hadley, Collinsville, Ill.: We claim arranging the central hoop A, in hinged parts *a*, *a*1, and *a*2, and the end hoops B, in hinged parts *b*, *b*1, *b*2, and *b*3, so that said parts may be folded together into small compass, substantially as set forth.

(84,212) THILL COUPLING.—Levi Pentz, Canton, Ohio.: I claim, *First*, The rubber block G, when constructed with concave front face *d*, upper rear flange *a*, and lower side and rear flanges *c*, *b*, *c*, and used in combination with the thill iron H, F, H, and clip arm B, constructed as specified, substantially as and for the purpose specified. *Second*, The combination of the rubber block G, constructed as specfied in the first claim, the thill iron H, F, H, with elliptical pin E, and the clip A, with arm B, provided with the slot D, hole C, and curved wedge part *n*, the several parts being arranged in the manner and for the purpose herein specified.

24. (84,265) THILL COUPLING.—William H. Curtiss, Painesville, Ohio: I claim the combination of the hook B, and its key B′, with the rigid joint bolt E, and its notch *e*′, when arranged and operating in the manner and for the purpose set forth.

(84,316) CARRIAGE SPRING.—Anson C. Stowe, San José, Cal.: I claim the shafts E, E, with their cranks or bent arms *d* and *g*, and the connecting rod *c*, together with the links *e*, *e*, and rods *b*, the whole operating on the springs D, as an equalizing device, substantially as herein described.

(84,329) METHOD OF INSERTING INDIA RUBBER IN HUBS OF CARRIAGES.—George F. Wilson, East Providence, R. I.: I claim, *First*, The employment in the hubs of carriage wheels, such as described, of a metallic lining, interposed between the india rubber or other elastic substance, and that portion of the hub in which said elastic substance is held, substantially as and for the purposes set forth. *Second*, The combination with the rubber or other elastic bearing and chambered hub, of a metallic lining, constructed as herein specified, so that while its larger end will line the sides and end of the chamber in which the rubber is held, its smaller end will extend back more or less into the interior of the hub, as and for the purposes set forth.

(84,376) EXTENSION POLE AND HOLDBACK FOR CARRIAGES.—W. W. Rexford, Loch Sheldrake, N. Y.: I claim the sliding tube C, holdback D, and spring catch E, *b*, in combination with the perforated tube B, affixed to the end of the pole, said tubes being prevented from turning one upon the other, by means of the feather *a*, all constructed and operating as described, for the purpose specified.

(84,378) CARRIAGE SPRING.—Benjamin H. Roberts, Fall River, Mass.: I claim, *First*, In combination with the elliptic springs B, B, the C springs F, F, formed by an extension of the ends of the elliptic springs, substantially as described. *Second*, In combination with the C springs F, F, formed by an extension of the elliptic springs, the braces or brackets G, G, for connecting the C springs to the body of the carriage, substantially as described. *Third*, The arrangement of the axle and rocker between the two parts of the elliptic springs, substantially as described and for the purposes set forth.

(84,379) SLEIGH BRAKE.—Milton Satterlee, Richland Center, Wis.: I claim the combination of the arm plates *e*, *e*′, with the spur wheel *w*, and the means for raising or depressing it, when used as a brake in connection with a sleigh or sled, in the manner described.

(84,446) CARRIAGE SPRING.—William F. Vernier, Philadelphia, Pa.: I claim, *First*, In combination with the axle and frame of a carriage, the lever D, having its fulcrum at *a*, and the gum elastic spring G. *Second*, In combination with the above, the cross levers D′, with their gum elastic springs, arranged substantially as and for the purpose set forth.

(82,082, dated September 15, 1868; re-issue 3,205) CARRIAGE SPRING.—Azro Buzzell, West Fairlee, Vt.: I claim my improved arrangement of the three springs A, B, C, as described, without any connection, extending from or about from the middle of one spring B, to or about to that of the spring C, the whole being as shown in the drawings.

(79,553, dated July 7, 1868; re-issue 3,207) VELOCIPEDE.—Benjamin P. Crandall, New York city: I claim, *First*, the combination, with the operating lever J, of a tubular support K, R, and the independent screw L, substantially as described. *Second*, As an improvement in the mode of operating the steering apparatus of velocipedes, the pivoted rods E, in combination with the yoke F, and the steering wheels D, substantially as described. *Third*, As a new article of manufacture, the detachable, cast metallic plates N, when applied to the spokes of the wheels, for the purpose described.

Dec. 1. (84,488, ante-dated November 14, 1868) WOODEN WASHER FOR CARRIAGES.—Thomas M. Hart, New Bedford, Mass.: I claim a wooden washer, made of two or more thicknesses of board, fastened together by glue or any adhesive compound, in such manner that the grain of one shall cross the grain of the other, to prevent splitting as herein specified.

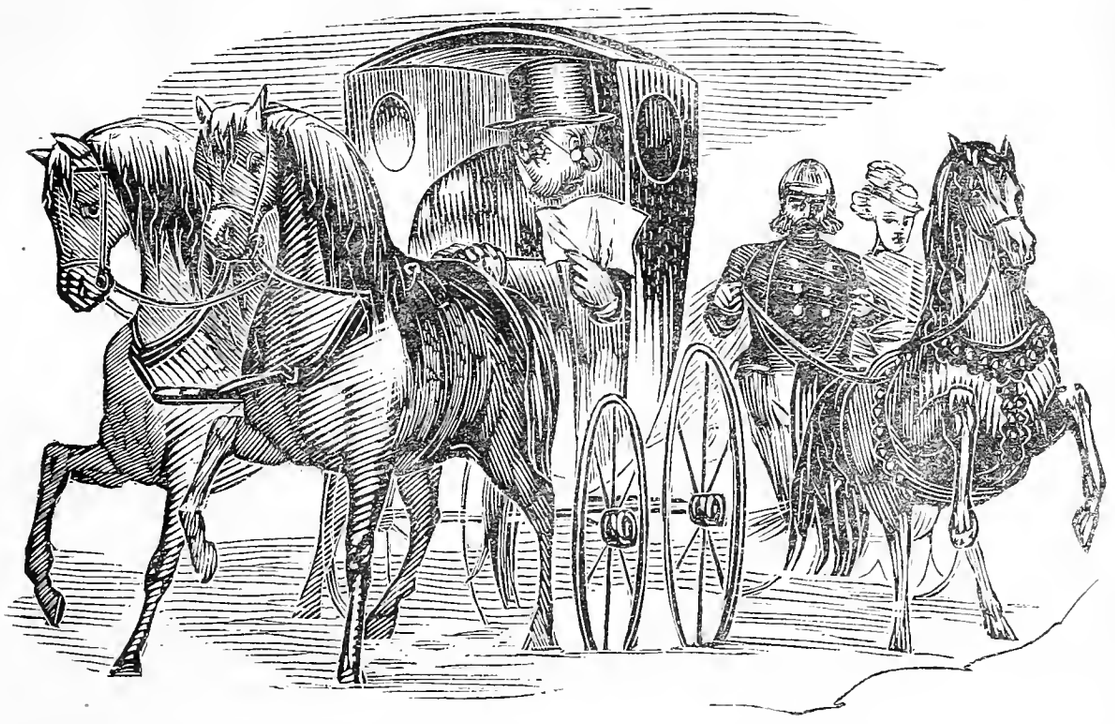
(84,513) FASTENING FOR WHIP SOCKETS.—Benjamin N. Shelley, Newark, N. J.: I claim a whip socket, having connected with it a fastening consisting of the hook *a*, and the screw *d*, constructed and operating substantially as and for the purpose specified.

(84,526) SLED BRAKE.—James M. Ackerson, La Fayette, N. J.: I claim the combination of the lever dog A, connecting rod D, and operating lever E, said parts being constructed, arranged, and operating substantially as herein shown and described. and for the purpose set forth.

(84,531) COUPLING FOR THE HOUNDS AND POLES OF WAGONS.—Frederick Bremerman, Indianapolis Ind.: I claim the device composed of the segment E, bed or chamber F, with flanges H, when constructed and arranged substantially in the manner and for the purposes set forth.

(84,545) SHIFTING JACK FOR CARRIAGE THILLS.—Albert W. Ham, Stockport, N. Y.: I claim the forwardly projecting holders D, D′, supporting the single shank jacks C, C′, as arranged with the separated clips B, B′, as and for the purpose described.

(84,548) Box for Carriage Wheels. — Charles H. Holdredge, Westerly, R. I.: I claim, *First*, The box C, of uniform exterior diameter, provided with the transverse notches or grooves *a*, and the radial wedge-shaped projections G, formed upon the flange E, substantially as described, for the purpose specified. *Second*, The box C, secured within the hub A, by means of the transverse notches *a*, and keys *b*, and prevented from turning therein by means of the wedge-shaped projections G, fitting within recesses in the end of said hub, substantially as herein shown and described. *Third*, The combination of the box C, wedge-shaped projections G, and the transverse keys *b*, with the hub A, substantially as described for the purpose specified.



Mr. Jollyman, *of the firm of Jollyman, Jinks & Co., in a quiet afternoon's drive, walks his horse up hill, and takes the opportunity of reading a very affecting letter from Frank Fastfellow, his clerk, excusing himself from business that day on account of sickness, when he is startled by hearing the well-known voice of Fastfellow from behind, "Come, move aside, old stick-in-the-mud, and let me get ahead of that old crockery crate of yours."*

(84,573) Top Prop for Carriages. — William B. Pardee, New Haven, Conn.: I claim, *First*, A top prop bolt, constructed with the T-shaped head D, so as to be secured upon the bow by the ends of the said T, substantially as set forth. *Second*, In a top prop, in which a sleeve E is passed over the bolt, the nut F, arranged so as to secure the parts, substantially in the manner and for the purpose specified.

(84,601) Wagon Hub.—Alonzo S. Woodward, Pepperell, Mass.: I claim, *First*, The hollow cast metal hub, composed of the parts A, C, and B, the latter having the box cast thereon, and the whole fitted together as described, and held by bolts *a*, all as set forth. *Second*, The packing rings *e* and *f*, and packing strips *k*, substantially as described, in combination with the hollow cast metal hub, as above set forth. *Third*, The part B, of the hub, provided with the inclined lubricating hole *n*, when said hole is closed by the perforated cap *p*, and the elastic packing disk *q*, as herein described, for the purpose specified.

(84,603) Wagon Seat.—Charles W. Aiken, Decatur, Ill.: I claim, *First*, The springs C, with triangular block *c*, formed at their lower ends, in combination with a wagon seat, substantially as and for the purposes described. *Second*, The devices for adjusting a wagon seat to any sized wagon, consisting of the slotted beams D, bolts *b*, nuts *e*, and side pieces E, substantially as and for the purposes set forth.

(84,662) Wagon Brake.—William T. Ward, Indianapolis, Ind.: I claim, *First*, The application of one or more weights H, by whose specific gravity the cams or rubbers F, are kept to the periphery of the wheels, substantially in the manner and for the purpose specified. *Second*, The strap L, provided with the holes *n*, *n*, and bolt or pin O, as and for the purposes set forth.

(84,667) Lubricating Axle.—J. L. Winslow, Portland, Me.: I claim the hollow journal, having the parts *d*, *h*, collar *k*, and sliding pieces *e*, *e*, as and for the purposes set forth.

8. (84,682) Wagon Tongue Support.—N. A. De Long, New Scotland, N. Y.: I claim the combination of the tongue and axle with the slotted adjustable plate spring, embracing the standard F, and having four points of support, as and for the purpose set forth.

(84,757) Wagon Box.—H. W. Persing, Centralia, Ill.: I claim the combination and arrangement of the eccentrics *e*, *e*, the staples *f*, *f*, and the swivel *d*, attached to the rods *c*, *c*, substantially in the manner described, and for the purposes set forth.

(84,802) Step Cover and Wheel Fender for Carriages.—John Curtis, Cincinnati, Ohio: I claim the bracket F, depending rigidly from the carriage door, in combination with the hinged flap G, arranged and adapted to operate in conjunction with a carriage step, in the manner and for the purposes set forth.

(84,829) Carriage Loop and Billet Cover.—Nicholas Jenny, Jun., Pittsburg, Pa.: I claim the metal sockets or receptacles into which the straps B, B, are inserted, and provided with flanges *b*, *b*, and rivets *b'*, *b'*, in combination with the straps D, D, and metal plates C, C, all constructed, arranged, and operated as and for the purpose set forth.

(84,845) Dies for making Carriage Axles.—W. W. Simmons, assignor to himself, R. M. Bassett, and T. S. Bassett, Birmingham, Conn.: I claim the dies E, constructed as shown and described, for the purpose hereinbefore set forth.

15. (84,878) Mode of fastening India Rubber Tires on Carriage Wheels.—J. Ashton Greene, Brooklyn, N. Y.: I claim, *First*, The method of attaching an india rubber tire to the ordinary flat metal tire of a wheel, by means of detachable and removable fastening devices, substantially as and for the purposes herein described. *Second*, The herein described bolts, nuts, and springs, for holding together the rubber and metal tires, the same being arranged and applied to the wheel substantially as shown and set forth.

(84,892) WAGON BOX.—Thomas M. Marcy, Windham, Ohio: I claim the sides B, B, ends C, C, hinged to the bottom or centre piece A, each and all being constructed, arranged, combined, and operating together in the manner and for the purpose as specified and set forth.

(84,940) AXLE.—Edward Finn, Berlin, Wis.: I claim the combination of the nut B, having annular slots *b*, *b*, and entrances *d*, *d*, with the axle C, A, having projections *a*, *a*, arranged substantially as desrcribed and for the purpose set forth.

(85,008) CARRIAGE SPRING.—Frank A. Huntington, San Francisco, Cal.: I claim the rigid levers C, C, and springs G, G, in combination with the adjustable bars F, F, the whole arranged substantially in the manner and for the purposes described.

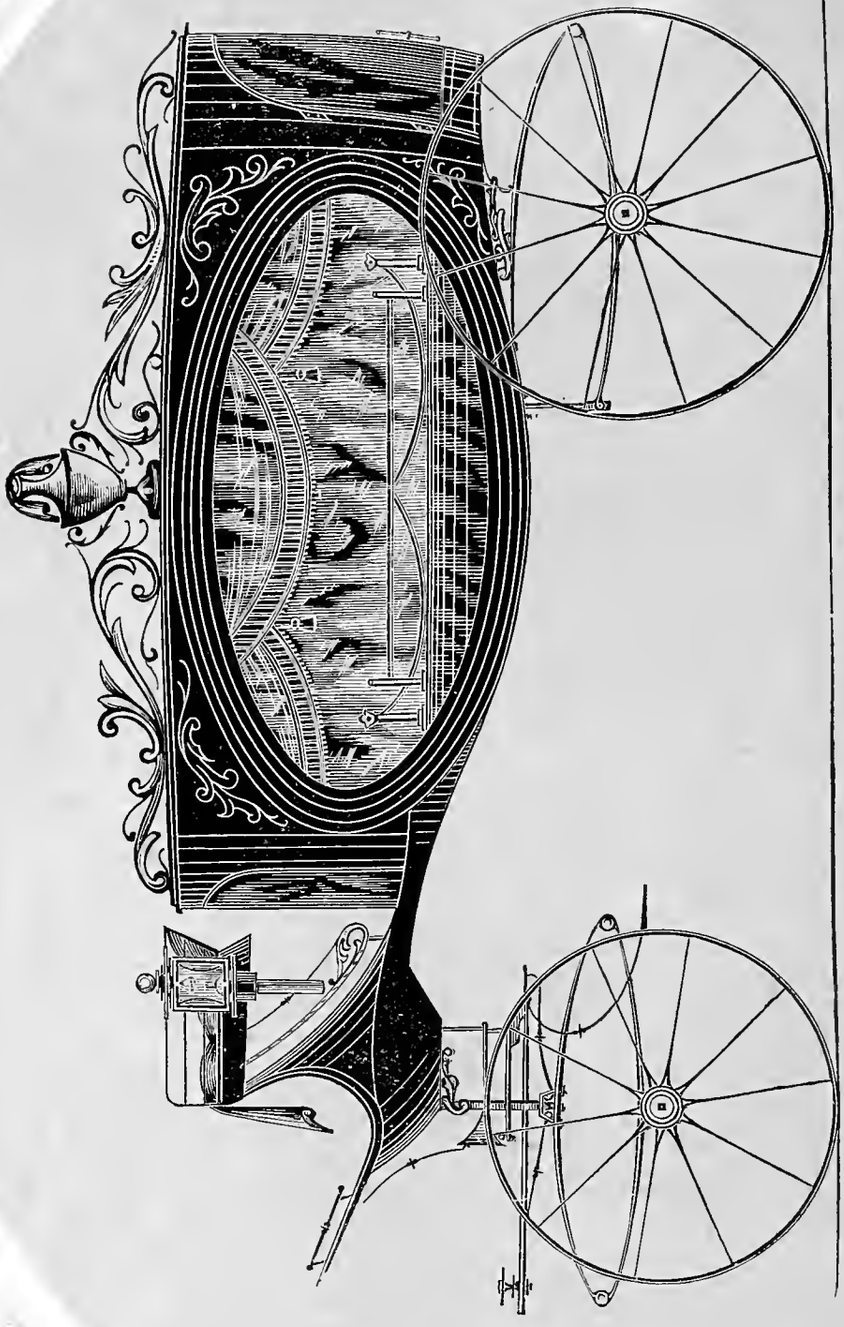
CURRENT PRICES FOR CARRIAGE MATERIALS.

CORRECTED MONTHLY FOR THE NEW YORK COACH-MAKER'S MAGAZINE.

NEW YORK, JAN. 18, 1869.

Apron hooks and rings, per gross, $1.25 *a* $1.75.
Axle-clips, according to length, per dozen, 50c. to 80c.
Axles, common (long stock), per ℔, 8c.
Axles, plain taper, 1 in. and under, $5.50; 1⅛, $6.50; 1¼, $7.50; 1⅜, $9.50; 1½, $10.50.
Do. Swelled taper, 1 in. and under, $7.00; 1⅛, $7.50; 1¼, $8.75; 1⅜, $10.75; 1½, $13.00.
Do. Half pat., 1 in. $10; 1⅛, $11; 1¼, $13; 1⅜, $15.50; 1½, $18.50.
Do. do. Homogeneous steel, ⅝ in., $11.00; ¾, $11; ⅞, $12.00; long drafts, $2.50 extra.
☞ These are prices for first-class axles. Inferior class sold from $1 to $3 less.

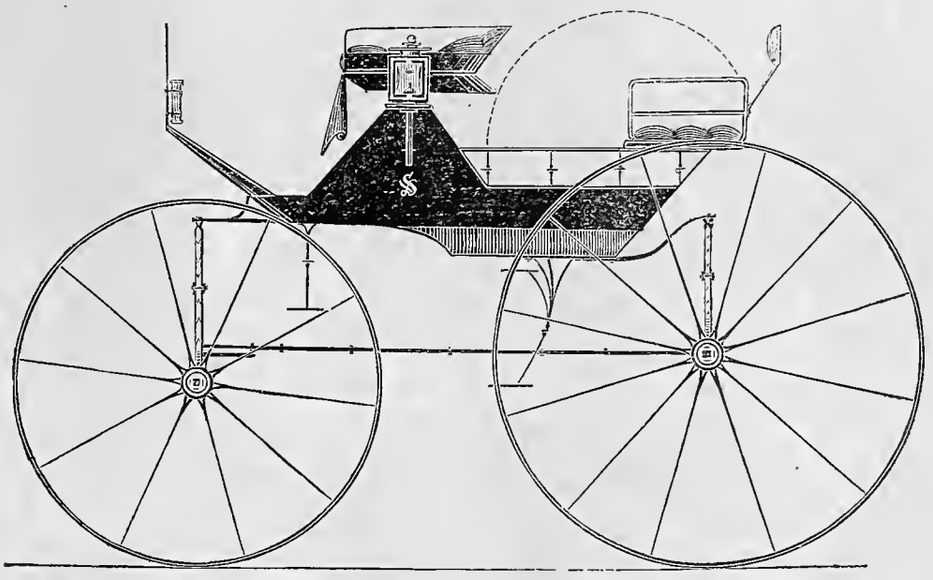
Bands, plated rim, 3 in., $1.75; 3 in., $2, larger sizes proportionate.
Do. Mail patent, $3.00 *a* $5.00.
Do. galvanized, 3½ in. and under, $1; larger, $1 *a* $2.
Bent poles, each $1.00 to $1.50.
Do. rims, extra hickory, $2.75 to $3.50.
Do. seat rails, 50c. each, or $5.50 per doz.
Do. shafts, $6 to $9 per bundle of 6 pairs.
Bolts, Philadelphia, list. 30 off.
Do. T, per 100, $3 *a* $3.50.
Bows, per set, light, $1.00; heavy, $2.00.
Buckles, per grs. ½ in., $1, ⅝, $1.12; ¾, $1.25; ⅞, $1 75; 1, $2.00.
Buckram, per yard, 18 *a* 23c.
Burlap, per yard, 14 *a* 16c.
Buttons, japanned, per paper, 20c.; per large gross, $2.25.
Carriage-parts, buggy, carved, $4.50 *a* $6.
Carpets, Brussels, $1.75 *a* $2; velvet, $2.75 *a* $4; oil-cloth, 45 *a* 70c.
Castings, malleable iron, per ℔, 15c.
Chapman rubber, $2.50 *a* $3.00, doz. pr.
Clip-kingbolts, each, 40c., or $4.50 per dozen.
Cloths, body, $3.50 *a* $5; lining, $2.50 *a* $3. (See *Enameled.*)
Cord, seaming, per ℔, 35c.; netting, per yard, 8c.
Cotelines, per yard, $4 *a* $8.
Curtain frames, per dozen, $1.25 *a* $2.50.
Do. rollers, each, $1.50.
Damask, German cotton, double width, per piece, $15 *a* $22.
Dashes, buggy, $1.75.
Door-handles, stiff, $1 *a* $3; coach drop, per pair, $3 *a* $4.
Drugget, felt, $1.75 *a* $2.
Enameled cloth, muslin, 5-4, 40c.; 6-4, 75c.
Enameled Drills, 48 in., 55c.; 5-4, 50c.
Do. Ducks, 50 in., 75c.; 5-4, 70c.; 6-4, 80c.
☞ No quotations for other enameled goods.
Felloe plates, wrought, per lb., all sizes, 20c.
Felloes (Rims), $1.50 *a* $3.
Fifth-wheels, wrought, $1.50 *a* $2.00.
Fringes, festoon, per piece, $2; narrow, per yard, 18c.
☞ For a buggy-top two pieces are required, and sometimes three.
Do. silk bullion, per yard, 50c. *a* $1.
Do. worsted bullion, 4 in., 35c.
Do. worsted carpet, per yard, 8c. *a* 15c.
Frogs, 50c. *a* $1 per pair.
Glue, per ℔, 25c. *a* 30c.
Hair, picked, per ℔, 40c. to 65c.
Hubs, light, mortised, $1.20; unmortised, $1. Coach, mortised, $2.
Japan, per gal., $2.
Knobs, English, $1.40 *a* $1.50 per gross.
Laces, broad, silk, per yard, 60 *a* $1.25; narrow, 10c. to 16c.
Do. broad, worsted, per yard, 40c. *a* 50c.
Lamps, coach, $10 *a* $30 per pair.
Lazy backs, $9 per doz.
Leather, collar, 28c.; railing do. 26c.; soft dash, No. 1, 15c. *a* 16c.; do., No. 2, 14c.; split do., 15c. *a* 17c.; No. 1, top, 27c.; enameled top, No. 1, 27c., do., No. 2, 25c.; enameled trimming, 25c.; harness, per lb., 50c.; flap, per foot, 25c.
Moss, per bale, 8c. *a* 15c.
Mouldings, plated, per foot, ¼ in. 14c.; ⅜, 16c. *a* 20c.; ½, lead, door, per piece, 40c.
Nails, lining, silver, per paper, 7c.; ivory, per gross, 50c.
Name-plates. (See Advertisement.)
Oils, boiled, per gal., $1.25.
Paints. White lead, extra, $14.00, pure, $15.00 per 100 lbs.; Eng. pat. black, 30c.
Permanent wood-filling, $6 per gallon.
Poles, $1.25 *a* $2 each,
Pole-crabs, silver, $5 *a* $12; tips, $1.25 *a* $1.50.
Pole-eyes, (S) No. 1, $2.25; No. 2, $2.40; No. 3, $2.65; No. 4, $4.50 per pr.
Sand paper, per ream, under Nos. 2½ and under, $4.50.
Screws, gimlet, manufacturer's 30 per cent. off printed lists.
Do. ivory headed, per dozen, 50c. per gross, $5.50.
Scrims (for canvassing), 16c. *a* 22c.
Seats (carriage) $2 *a* $2.75 each.
Seat-rails, 75c. per doz.
Seat-risers, Linton's Patent, $2 per pair.
Seats, buggy, pieced rails, $1.75; solid rails, $2.50.
Shafts, $12 to $18 per doz.
Shaft-jacks (M. S. & S.'s), No. 1, $2.40; 2, $2.60; 3, $3.00.
Shaft-jacks, common, $1 *a* $1.35 per pair.
Do. tips, extra plated, per pair, 25c. *a* 50c.
Silk, curtain, per yard, $2 *a* $3.50.
Slat-irons, wrought, 4 bow, 75c. *a* 90c.; 5 bow, $1.00 per set.
Slides, ivory, white and black, per doz., $12; bone, per doz., $1.50 *a* $2.25; No. 18, $2.75 per doz.
Speaking tubes, each, $10.
Spindles, seat, per 100, $1.50 *a* $2.50.
Spring-bars, carved, per pair, $1.75.
Springs, black, 16c.; bright, 18c.; English (tempered), 21c.; Swedes (tempered), 26c.; 1¼ in., 1c. per ℔. extra.
If under 34 in., 2c. per lb. additional.
☞ Two springs for a buggy weigh about 28 lbs. If both 4 plate, 34 to 40 lbs.
Spokes (Best Elizabethport), buggy, ⅞, 1 and 1⅛ in. 9½c. each; 1¼ and 1¼ in. 9c. each; 1½ in. 10c. each. 10 off cash.
☞ For extra hickory the charges are 10c. *a* 12½c. each.
Steel, Farist Steel Co.'s Homogeneous Tire (net prices); 1 x 3–16, and 1 x 1-4, 20 cts.; 7-8 x 1-8 and 7-8 x 3-16, 23 cts.; 3-4 x 1-8, 25 cts.; 3-4 x 1-16, 28 cts.
Steel Tire—best Bessemer—net prices: 1-4 x 1 1-8, 15c.; 1-4 x 1, 15c.; 3-16 x 1 1-8, 16c.; 3-16 x 1, 16c.; 3-16 x 7-8, 17c.; 3-16 x 3-4, 17; 1-8 x 7-8, 20; 1-8 x 34; 1-16 x. 3-4, 23.
Stump-joints, per dozen, $1.40 *a* $2.
Tacks, 7c. and upwards.
Tassels, holder, per pair, $1 *a* $2; inside, per dozen, $5 *a* $12; acorn trigger, per dozen, $2.25.
Thread, linen, No. 25, $1.75; 30, $1.85; 35, $1.80.
Do. stitching, No. 10, $1.00; 3, $1.20; 12, $1.35, gold.
Do. Marshall's Machine, 432, $3.25; 532, $3.75; 632, $4, gold.
Top-props, Thos. Pat, wrought, per set 80c.; capped complete, $1.50.
Do. common, per set, 40c. Do. close-plated nuts and rivets, 75*a*80c.
Tufts, common flat, worsted, per gross, 15c.
Do. heavy black corded, worsted, per gross, $1.
Do. do. do. silk, per gross, $2.c. Do. ball, $1.
Turned collars, $1.25 *a* $3 per doz.
Turpentine, pr gl., 60c
Twine, tufting, pr ball, 50c.; per ℔, 85 *a* $1.
Varnishes (Amer.), crown coach-body, $5.00; nonpareil, $5.25.
Do. English, $6.25 in gold, or equivalent in currency.
Webbing, per piece, 65c.; per gross of 4 pieces, $2.40.
Wheels, $12 to 22.
Whiffle-trees, coach, turned, each, 50c.; per dozen, $4.50.
Whiffle-tree spring hooks, $4.50 per doz.
Whip-sockets, flexible rubber, $4.50 *a* $6 per dozen; hard rubber, $9 to $10 per doz.; leather imitation English, $5 per doz. common American, $3.50 *a* $4 per doz.
Window lifter plates, per dozen, $1.50.
Yokes, pole, 50c.; per doz, $5.50.
Yoke-tips, ext. plated, $1.50 pair.



EXCELSIOR OVAL GLASS HEARSE.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

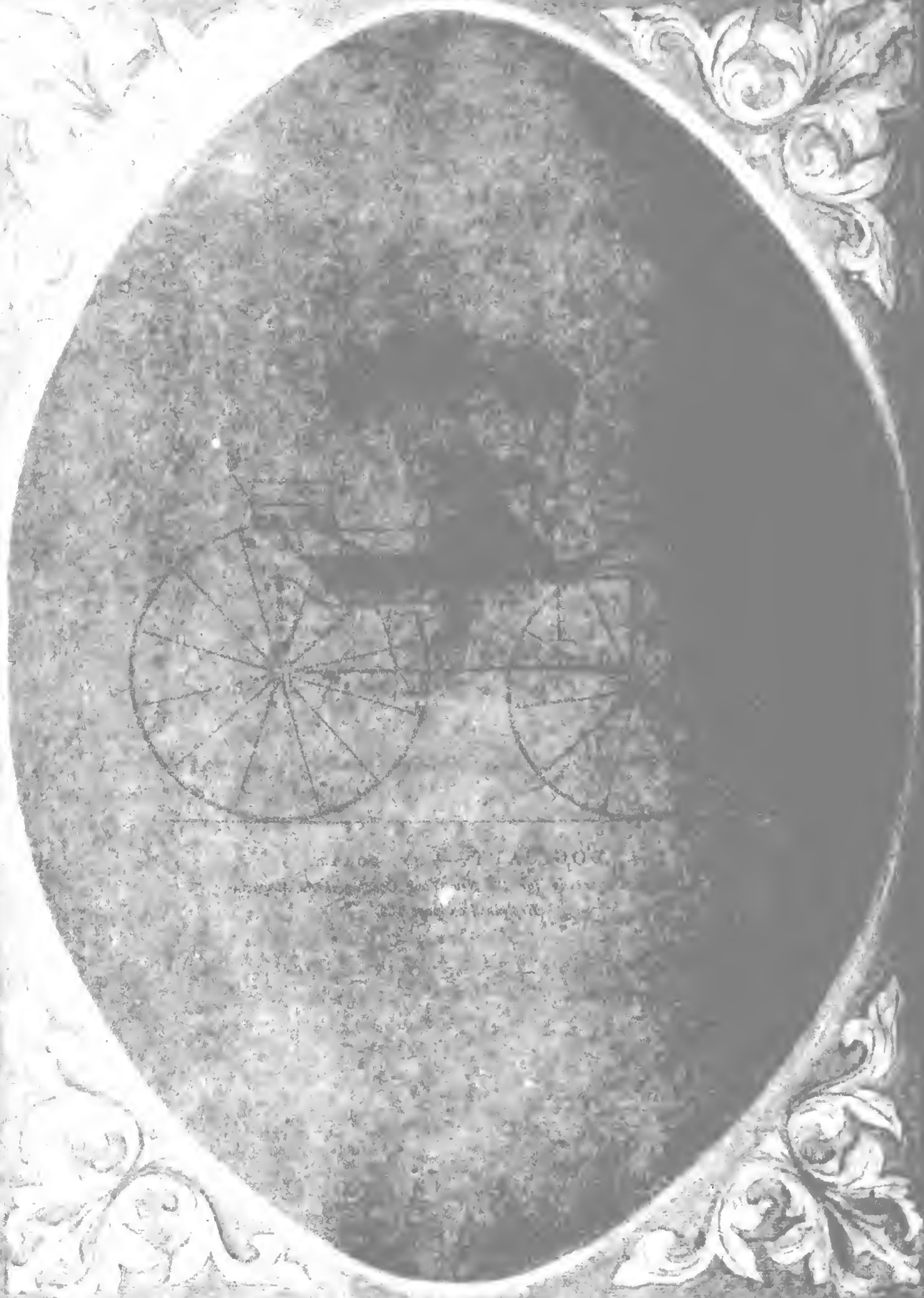
Explained on page 153.

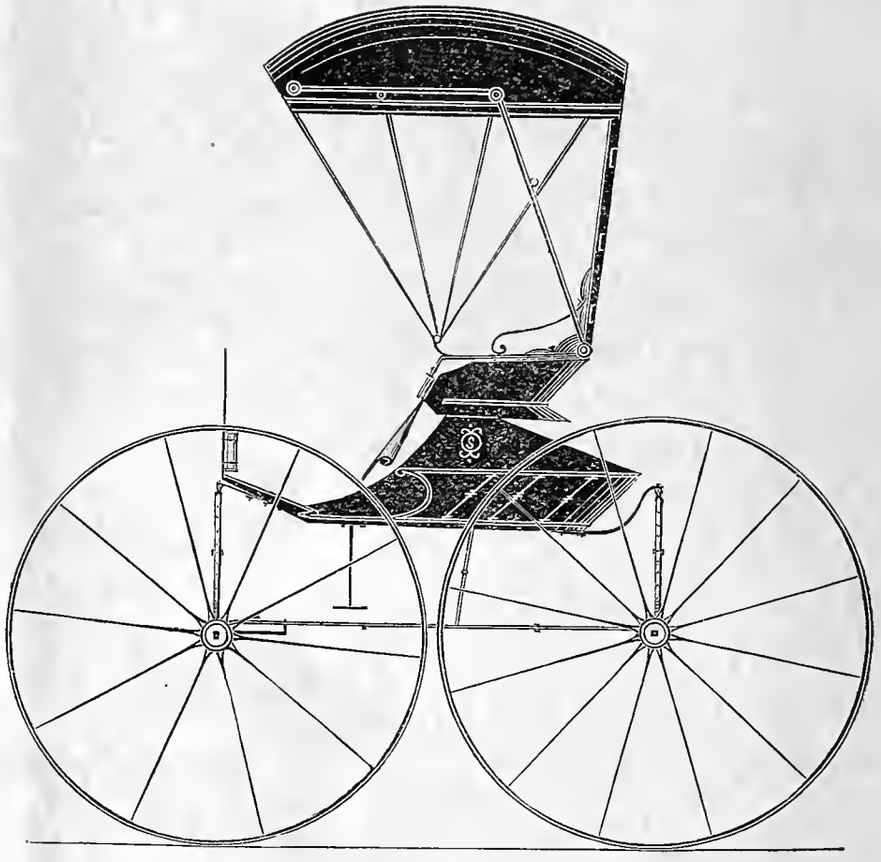


DOG-CART.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 153.

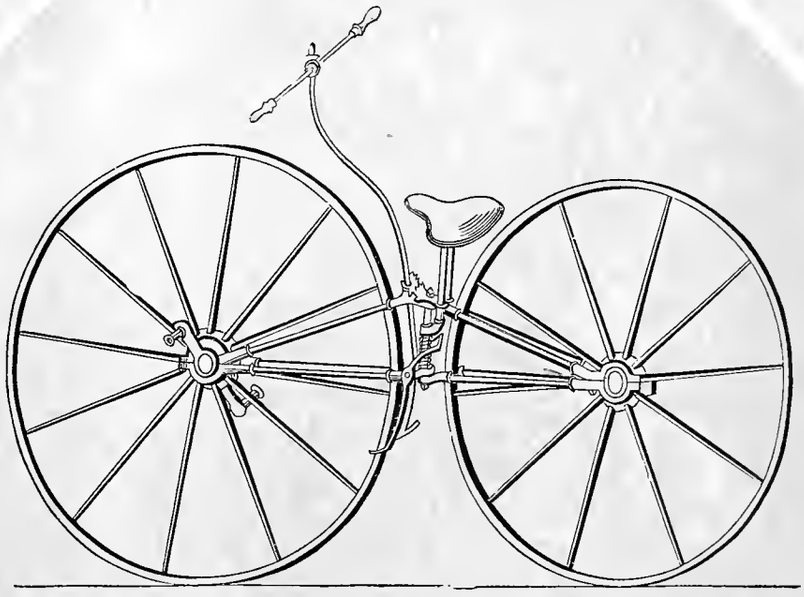




EXCELSIOR TOP BUGGY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

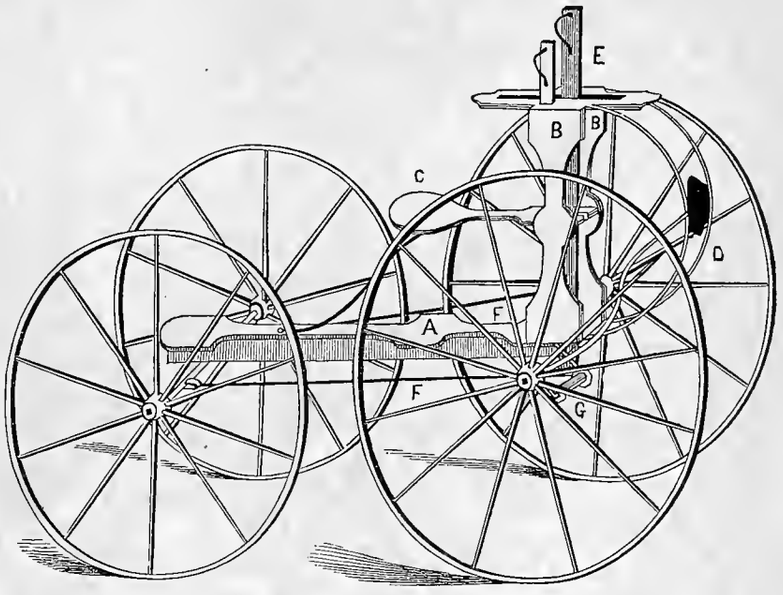
Explained on page 153.



THE PEARSALL VELOCIPEDE.—$\frac{5}{8}$ IN. SCALE.

Engraved expressly for the New York Coachmaker's Magazine.

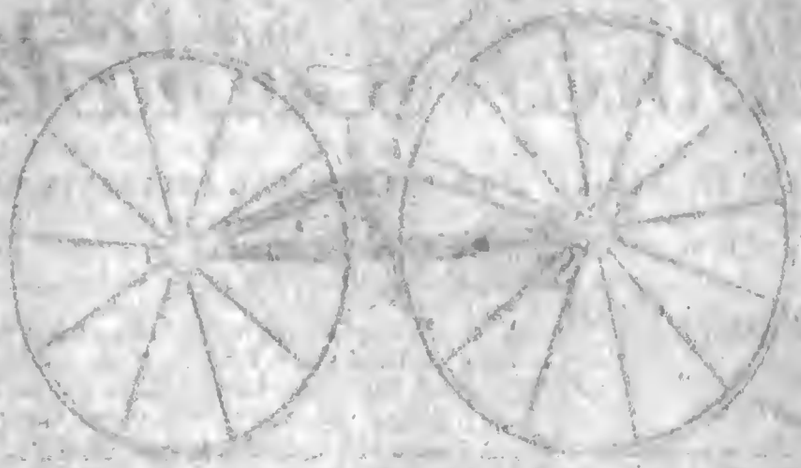
Explained on page 153.

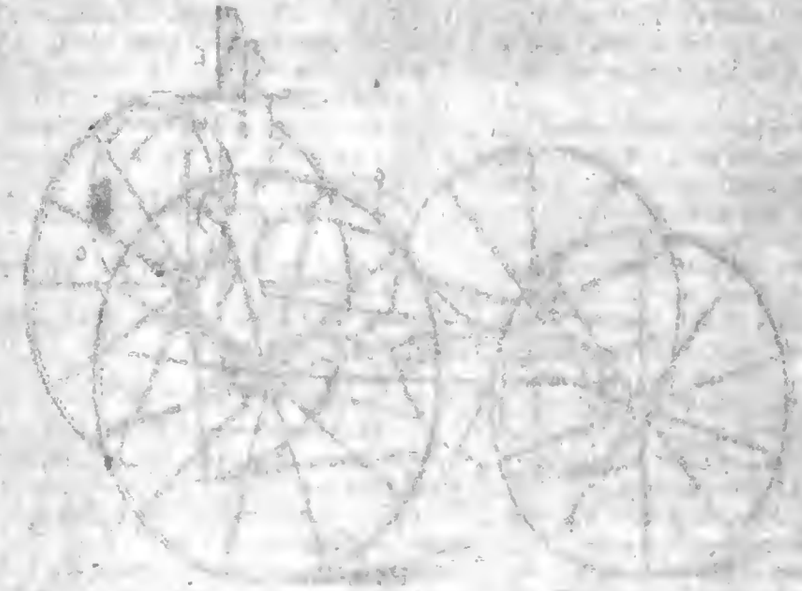


REYNOLD'S FOUR-WHEELED VELOCIPEDE.—$\frac{5}{8}$ IN. SCALE.

Engraved expressly for the New York Coach-maker's Magazine.

Explained on page 154.





DEVOTED TO THE LITERARY, SOCIAL, AND MECHANICAL INTERESTS OF THE CRAFT.

Vol. X. NEW YORK, MARCH, 1869. No. 10.

Mechanical Literature.

THE BOSS' STORY.

BY H. S. WILLIAMS.

CHAP. II.—In which he gets to be a Tramping Jour.

The great city, with all its hubbub and confusion, how it strikes the youthful adventurer for the first time. It is a good deal larger and busier and noisier now than when I saw it first, but to me it was a marvel of cities. I remember one thing that perplexed me not a little, and it was, What all the people done to make a living, and how they all managed to live?

It was nearly noon when I reached it, and I passed the remainder of the day in wandering over it. I visited the park, saw the wonderful fountain in full play, with the City Hall, a picture of which I had looked and wondered at for many an hour in Olney's old school geography. I looked out upon the bay that lay so calm and placid, with a thousand ships resting quietly on its broad bosom. I rested myself beneath the cool shade-trees of the Battery, inhaling the delightful sea-breeze as it fanned my heated brow.

When night came I found an obscure lodging where I obtained a poor bed for one shilling, with mosquitoes and vermin of all kinds thrown in. When I did get to sleep it seemed as though I was awakened almost immediately by the rattling of the carts over the rough and stony streets. On looking out of the window, I saw that day was just breaking, so I made a hasty toilet and started forth.

As Mr. Higgins obtained most of his stock in the city, and as a good deal of his work came there to be sold, I did not think it altogether prudent to try to get a situation there, and as I had often heard jours speak of Newark as a great place for carriage-making I determined to try my fortune there. So bidding adieu to the great Ball of Confusion, I proceeded to the Jersey City ferry, and procuring a ticket, crossed over the river, and in less than an hour was safely landed in Newark. Depositing my bundle at a hotel near by, I started up Market street in quest of a job. There were carriage factories on almost every square, and I saw the names of Heddenberg, Turnbull, Quimby & Co., Clark and Sanders on large signs over the doors, but they were too large for me and I proceeded on in quest of smaller ones. It was not difficult to find them, for they were scattered all over the city. All through that long and, to me, dreary day I searched, but searched in vain. At some shops I was eyed with suspicion apparently on account of my youth, at others I received a curt 'no' in reply to my modest inquiry, while the boss scarcely deigned to look at me. Night came and, completely discouraged, I went to a cheap out-of-the-way hotel and procured lodgings for the night. After paying my bill the next morning, I was compelled to have breakfast, for, besides a lunch, I had eaten nothing the day before. I found that I had not enough money to pay for another night's lodging, so with a determination born of desperation I started out again. Going down Harrison street I found a cluster of shops that I had not yet visited. At the third one I called at, a very rough wooden building, I found the boss busily engaged driving a set of spokes. Bidding him good morning, I asked if he could not give me a job?

"What at?" he asked, scarcely taking his eyes from his work.

"Bodies, or any part of the wood-work," I replied.

"Jour?"

"No, sir; I have only worked at the trade a year and a-half."

"Where from?"

"Connecticut."

"Oh, New Haven, eh? Broken boss, I suppose," and he eyed me a moment as though he was revolving in his mind whether it was best to try me or not. "Well, we have one vacant bench," he continued; "might give you a job. What can you do?"

"Have made two or three plain bodies and several carriage-parts, but will try and do anything you may wish."

"Ever work any on wheels?"

"Never made a set complete, but have rimmed several."

"Very well. You can find a boarding-house, and then come round and try your hand on these wheels. You will find a good place on Bank street, close to Washington, Mrs. Elliot's. Nearly all my hands board there, and might as well be together."

Thanking him, I went out. After some little trouble I found the house designated, made a bargain with the landlady for board at two dollars and a quarter per week, and then brought up my little bundle. What a load was taken

off my mind. I had found a job, and, height of my boyish ambition, I would live at a regular boarding-house.

Returning to the shop, I found that the boss, whose name I learned was Whetrock, had finished driving his spokes, and so I began to fix up my bench for work. First, the tools I had to work with were in miserable order; then there was not half a set, and odds and ends of a dozen different ones at that. But I was free, and I felt relieved. The fact of my being a runaway apprentice did not present itself to my mind in a moral and legal point of view, as it might, perhaps, had I been older. Under all circumstances I felt justified, and as I look back now and think it all over, I cannot change the opinion then formed. That night I slept sounder and sweeter than I had done for months.

The next morning I got fairly at work on my wheels. I soon saw by the material used that the shop made nothing but what was known as "Southern work." The looks was all they thought about, the durability nothing. I went to work with a vim and soon had my wheels done, and after Mr. Whetrock had looked at them, and ordered them taken to the paint shop to be painted, at the same time giving me another job, I felt perfectly satisfied.

Days and months passed away, and I was getting along finely. I was on the best terms in the world with all the hands, with only one exception. There was a young fellow by the name of Green who, like myself, was working under instructions. He was originally from New Haven, and had been a year longer at the trade than myself, yet I turned out a better job than he could. This fact seemed to annoy him somewhat, and I could plainly see that he had a positive dislike for me.

This dislike soon manifested itself in a way that was not very pleasant to me, as the sequel will show.

Newark was not only a beautiful city, but a most pleasant place to live in. As I became acquainted, my diffidence gradually wore off, and I soon passed a part of my evenings in company. As there were several young ladies boarding at the house, we generally had a social little party in the parlor almost every evening, when with music and singing and conversation we passed away the hours very pleasantly. But I did not altogether neglect my studies, for there was an excellent circulating library there, and as I joined it, I had thousands of volumes at my command. The wages I received were not large, only five dollars per week. But I soon managed to save enough to get me a good suit of clothes, while I always had a little change in my pocket, so that I could not help but congratulate myself on my improved condition.

One day an order came from one of the large factories for an express body to be built as soon as possible, and the job was given to me. Green evidently felt chagrined at this, and from the fact that I always had a better class of work to do than he did. So when I was putting my tools in order to commence the job, he came to my bench and, after a good deal of talk on indifferent subjects, he said. "By the way, whose shop did you work at in New Haven? I came from there myself, you know."

"I did not work in New Haven," I replied.

"Ah, why I thought you told the boss you came from there," he exclaimed. "What place did you work at?"

For a moment I hesitated, but seeing no way to evade so direct a question, I told him.

"Why bosses don't generally break in small country towns," he answered, as he turned away.

A month or so afterwards, as we were quitting work for dinner, I looked up and, to my consternation, I saw my old boss, Mr. Higgins, coming up the shop with Mr. Whetrock. Now, I do not know as I particularly feared him, yet I had much rather not have seen him just then, or, in fact, at any time. As it was, I felt a remarkable faintness about the heart, as though the blood had ceased to circulate. It was not merely a lack of physical courage, but it was in the fact that I well knew a runaway boy was not looked upon with very favorable eyes by either bosses or jours.

"Ah, ha," said he, as he approached my bench. "You thought I would not find you, I suppose, but you see I have."

"I thought nothing about it," I replied, firmly; for I knew that a bold front was all that would carry me through with credit.

"Well," said he, "you've been gone about long enough, I think, so you'd better go back with me."

"No, sir," I answered, "that I will never do with my own free will."

"Then I'll have to compel you, that's all; but you'd better not make any fuss about it. Come along quietly, and remember you are in my power until you are twenty-one."

"I would be in Connecticut," I answered, "but now I am in New Jersey, and I will not go."

"It makes no difference where you are, the law will compel you to return with me."

The hands had nearly all gathered round us, and I saw that I had a desperate case before me, and I determined to win them to my side if possible.

"What's the fuss?" asked one of the jours. "A runaway apprentice?"

"Yes, sir," I replied, "I did run away from this man, whose treatment of me, a poor orphan boy, without friends, was unbearable. No free-born American boy with one spark of spirit in him would endure what I did without running away. He beat me, not with his fists like a man, but with sticks and clubs like a coward."

"The old scoundrel," exclaimed the jour, "we'll stand by you; so don't let him scare you to going back if you don't want to."

"I'd sooner die first," I said, as I turned to go out.

"Then there's only one course," exclaimed Higgins, "and that is to have you arrested, and that I'll do this very day," and he left me. As we were leaving the shop, I saw Green, with a peculiar grin of apparent satisfaction, sneak off down the stairs. Somehow I did not have much of an appetite for my dinner that day. I saw Mr. Whetrock afterwards, and frankly confessed all my previous history to him, and told him that if he wanted it I would try and get a job somewhere else.

"Not by any means," he replied; "you can have work with me as long as I have it to give. You need not go to the shop this afternoon. If I want you I will send for you; but I don't think there is much danger of Higgins coming to molest you any farther, for my opinion of him is, that he is too stingy to go to the expense of forcing you to go back with him." Mr. Whetrock was correct in his supposition, for he did not send for me, nor have I ever seen Higgins from that day to this, so I will drop him most gladly from my history.

The next day I noticed that some of the hands did not appear to have that social feeling towards me that they formerly had, but it soon wore off. A week or so afterward,

as I had just finished off my express body, one of the jours, in passing, stopped a moment and remarked, that it was a pretty fair job for an apprentice.

"You mean that it will do for a runaway cub," said Green, in a sneering tone. My blood was roused in an instant. "No one was speaking to you," I replied, "and I want none of your remarks on that subject. It is a better job than you could do, and if I did run away, it has to be proven whether you have the advantage of me in that respect."

"Do you mean to insinuate that I ran away," he said, in a low tone, coming towards me.

"I mean to insinuate nothing," I replied; "but I mean to say that we have only your word that you did not, and the veracity of any person who would stoop to be a spy and informer should be taken with a good deal of caution."

"What do you mean by that?" he cried, doubling up his fists.

"I mean," I said, "that you meanly obtained from me the name of the town I came from, and then wrote there the information that brought Mr. Higgins here."

"You lie," he cried, and drawing back he struck me full in the face.

"And you are a coward," I exclaimed, "to strike a person without warning," as I prepared to defend myself.

I wonder if there ever was a boy that lived long enough to come out a full-fledged jour without having a fight at some period of his apprenticeship? This was my first one, and I determined that if he did whip me, it should be a hard-won victory for him. In a moment it seemed as though every hand in the whole shop had quit work, and were surrounding us, forming an embryo prize ring. I never did believe in fighting, but this was a case in which I could not get out without forfeiting my honor, as well as the respect of every one about me.

I can look back now and smile at the affair, but we were both terribly in earnest then. He was the larger and heavier, but I was the most active. The second blow he aimed at me I dodged, and, at the same time, struck him a pretty severe one on the side of the face. Then, for a minute, he fought rather shy. He made several passes, two or three of which took effect, but as I returned the compliment with equal force, he had none of the advantage of me. Then we closed, and I was quick enough to get the under hold—a great advantage in wrestling, as you undoubtedly know. In vain did he try to throw me, he only became more exhausted at each attempt. This only increased his rage, while I patiently awaited my turn. But it did not come as I expected. It so happened that one of the trimmers, in coming to see the fight, had brought his trimming knife with him, which he had pla-ed upon my bench, and now stood off anxiously watching the proceedings. As we neared the bench, in our tussel, my opponent saw the knife, and, reaching out, he grasped it. With a desperate effort I seized his hand, when he wrenched it away suddenly, and, by so doing, cut three of my fingers to the bone. In a moment two of the jours rushed in and separated us. Just then the boss came in.

"What is the matter?" he asked, "what does all this mean?"

"Green and myself have been fighting," I replied, "he called me a liar, and struck me, and finally ended it by drawing a knife upon me; and after this, sir, it would be impossible for us to work in the same shop on peaceable terms, so one of us must leave, and you must decide which one. As for myself, I am perfectly willing to go if you wish it."

"Well, I'll see about this," he replied, and taking the body-maker, who generally acted as foreman during his absence, to one side, had a few moments' conversation with him. That night Green had orders to quit, so you see I came out with flying colors in that affair.

A year now passed away, probably the happiest of my younger days. I was contented, and had the good will of my employer, as well as all the employees. It was a year that glided over my head like a bright spring day, without cloud or storm, consequently I have nothing to relate during that period that would interest you. But the succeeding Fall, times began to get slack. A failure in the cotten crop down south, they said, was the cause of it, and everybody was talking of the number of hands to be discharged, and the hard times during the Winter. Affairs soon came to a crisis with us, and in a manner that none of us expected. One Saturday night, about the 1st of November, Mr. Whetrock paid us all off, and then told us that we might look out for new situations, as he was going to close out his shop the next week, when he intended emigrating to California. Fortunately I had bought me a pretty fair set of tools, and had saved some little money, so that I was not entirely destitute. Early on Monday morning I was off to the different shops, and during the day I visited every one, I believe, in the whole city; but at all I met the same reply—too many hands already; so with that promptness that ever characterizes me, I determined upon a change of location. The next day I bid all my friends good-bye, and departed for Rahway. There, too, I found they were discharging hands instead of giving more employment. At Philadelphia it was the same. I then determined upon a bold move. Beyond the Alleghanies, I reasoned, they depend solely upon home custom; the cotton crop does not affect them; there has been good crops in the West, according to the papers; consequently, times must be good there. I counted my money, and found I had enough to take me to Pittsburg, with a few dollars to spare. At ten o'clock that night I was on my way. The railroad then only went as far as Altoona, where we had to take stages to cross the mountains; once on the other side we again took the rail for Pittsburg.

It was morning when we arrived at the Iron City, a dense cloud rested over it, and I began to fear I would have a wet time seeking a job, but was told that as it was only smoke I need have no fears on that score. For the life of me, I never could tell how they told the difference between smoke and real clouds there. I confess I was not very much prepossessed in favor of the place, yet I searched faithfully all day long for a situation. None to be had; but they told me—plenty in Cincinnati. I thought they might as well have said Paris, for I did not have over three dollars. Yet I must go somewhere. I proceeded to the river, and saw half a dozen boats, all up for Cincinnati, for which place they were all going to start at four o'clock precisely, if one could believe the large placards hung out; but as it was then five, of course they meant next day.

Inquiring the fare to Cincinnati, I was told eight dollars, the very lowest. Just five dollars too much for my purse. While I was thinking what was best to do, and the hard times of a tramp at best, I was suddenly

accosted with: "Halloa! youngster, where do you want to go to?"

I looked up, and beheld a rough-looking specimen of manhood, his face all begrimed with coal dust and smoke; but then, as everybody thereabouts could boast of that tinge, it did not surprise me much.

"To Cincinnati," I answered.

"All right," he replied, "I'm going down, and want another hand or two to help run my coal boats; there they lay, will you go aboard?"

The idea of working my passage down had never occurred to me before, so I replied: "I'll go aboard to see how I'd like it, but I don't know anything about a coal boat—in fact, I never was on one in my life."

"Oh, well," he answered, "that makes no difference, you can learn all you need in half a day."

So I went aboard with him, and as I noticed two women and several children there, I came to the conclusion it must be all right, and I could stand that kind of a trip if they could. Before it was fairly dark, I had my trunk and tools on board, and, soon after moonrise, we started out. I could give you many rich items of interest that occurred on that trip if I had time, but I must pass on. There was quite a fleet of coal boats together, and the man I was with owned three of them, which he generally kept tied together, in tandem style, especially when the weather was pleasant. In passing through Kentuck Cut-off a heavy storm suddenly burst full upon us, and, as we were near the shore, a huge tree was uprooted, and fell across our hindmost boat, breaking it square in two, and killing, either by the fall or by drowning, the hand on board of it. Of course it was a total wreck, and sank immediately, which put the owner in anything but a good humor. It was a slow trip, but as not only the life, but the scenery was new to me, it did not prove a tedious one. The Ohio—*la belle river* of the early French *voyagers*, —I had read such glowing descriptions of it, that it seemed a land of romance to me, and what surprised me at the time was, that although most of my companions were old river hands, and had passed up and down scores of times, yet I knew more of the history of the towns and different places than they did, and it surprised them too.

We reached Cincinnati at last, and although our coal boat Captain urged me to remain with him till he sold out, yet I went ashore, promising that if I could not get a job I would do so. As he said he would remain there a day or two, I only took my valise, containing most of my wardrobe, ashore with me, leaving my trunk, containing all my tools, on board.

After two or three trials I was successful in securing a job at a Mr. Harmon's shop, who seemed to be doing a pretty extensive business, and of a much better style of work than I imagined I would find done there. I was now over eighteen, and well grown for my age, and as my new boss never asked me anything about my apprenticeship, I went to work as a jour. The wages he offered were small—only nine dollars per week; but to my eyes, just then, it looked like a small fortune, for I was *broke*. Selecting a good boarding-house, I had my valise conveyed thither, ate a good dinner, and then went down to the river to get my tools. What was my consternation to find the boat gone! In vain I looked up and down the levee, it was nowhere to be seen; and, upon inquiry, I learned it put out a couple of hours or so after it landed, and the man who gave me this information very politely laughed at me when I told him why I was interested in its whereabouts.

Going back to Mr. Harmon's, I told him of my ill fortune, and he, too, rather laughed at me. "Humph!" said he, "they are mighty mean rascals, all them coal fellers; but you can't be very sharp to leave your things in their possession; why I would as soon trust a piece of cheese in a rat-hole over night. But, however, I guess we can fit you out until you can make enough to buy you another set of tools. Hunt up all you can find about the shop and go to work."

It is almost useless to say that, although I sent to Louisville after my trunk, yet I never saw or heard of it again.

I worked faithfully all the Winter, and got along exceedingly well. My work not only passed muster, but seemed to give entire satisfaction, and as most of it was Rockaway bodies, of course I was improving myself all the time. There was only one thing I did not like. The boss did not pay up as I should have liked—five dollars on Saturday night being the most, and often only three. As my board was two fifty, of course it was a long time before I got me a set of tools; but by buying one thing at a time, I managed to get along very well. As all the rest of the jours were paid about the same, I could not well complain. I had been in Cincinnati nearly a year, and having the drawback above mentioned, nothing had occurred to mar the even tenor of my way, but then something did happen.

It was a lovely day in October, that most beautiful of all the months, when, one day, an apprentice came in the workshop and informed us that the sheriff was closeted with Mr. Harmon in his private office. This, too, was a very suspicious circumstance, and the way things had gone on lately caused us to surmise that there was trouble ahead. Business, too, was rather dull in our line as far as we could learn, and then, most suspicious of all, the boss had been absent all the previous Saturday, and consequently none of us were paid anything. There was not much work done that day.

Early the next morning I was at the shop, and found the doors closed, with a notice put thereon "by order of the Sheriff," while two or three jours were standing about with blank looks of amazement. If the apparition of old Higgins had suddenly rose out of the pavement to confront me I could not have been more stunned. Harmon was broke. There was but one opinion among all hands, and that was, that he had broke with his pocket full of money for he had done a big business and sold for cash. The fact that he started again on a big scale the next Spring, in an interior town, under the name of his brother-in-law, proved we were correct.

On looking over my book, I found he owed me nearly two hundred dollars, and it did not improve my temper when the Sheriff informed me that the stock, all he owned, would not sell for near enough to satisfy the executions already levied. I confess that, for once, I was completely disheartened. Let me do whatever I might, luck was against me. I, too, was broke, my board bills, my wardrobe, and my tools had taken up about all I had drawn; and that bright October morning I could not muster over five dollars to my name. I got my tools out, and then all the rest of that day I sat in my room, little caring what became of me; and yet the man who had so deliberately swindled me was free and happy, laughing to himself at

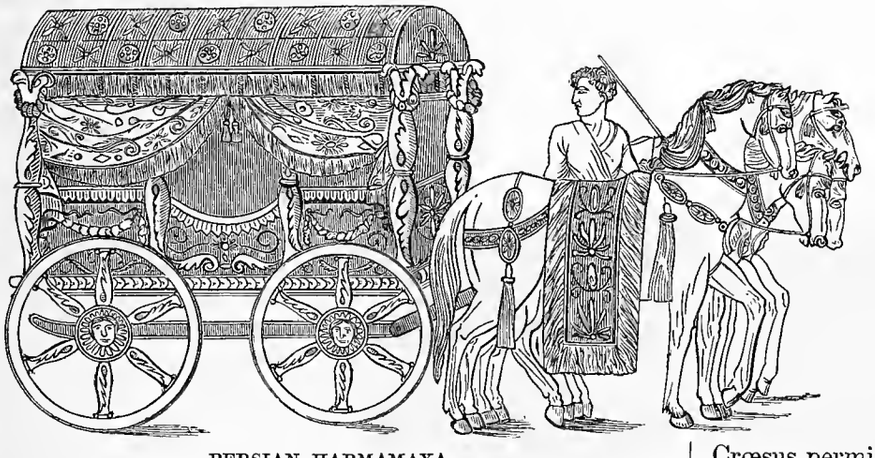
the thought of how cleverly he had defrauded a score or two of hands out of their hard-earned wages. Ah! thou blind goddess called Justice—seriously, is there such a thing in this world? In the temper I was then in I would have answered most emphatically in the negative.

OUR PERSIAN CARRIAGE-MUSEUM—III.

TRANSLATED FROM THE GERMAN OF GINIGOT.

The Harmamaxa was with the Persians what the four-wheeled Carpentum was to the Romans, and differed merely from the latter in the foreign material and decoration; instead of which the Romans followed their own taste, and used their own manufacture.

Our illustration represents a Persian Harmamaxa. These chariots were used more by women and effeminate youths than by men. Cyrus was very anxious to increase his cavalry, and the example of the great went to encourage the rich youths to devote themselves to this exercise;



PERSIAN HARMAMAXA.

for as they were at that time in the habit of riding in chariots they made very poor horsemen and indolent warriors. For this reason Agesilaus sold the Persian prisoners naked, they never having exposed any part of their bodies, and rode constantly in chariots, so that they looked so white and delicate, that his soldiers, seeing them, thought they had to fight with women.

Xenophon, in his History of Greece (Lib. III., Chap. 4,) says that notwithstanding the Persian kings and princes persisted in using chariots, as one can find in Athenacus, Lib. XII., where it is said: "When the Persian King goes to the palace, he enters a chariot or mounts a horse, but he is never seen on foot outside the town." Herodotus says, Lib. VII., that Xerxes, as often as he thought fit, stepped from his ordinary two-wheeled chariot (Harma) into the four-wheeled Harmamaxa. The ordinary war chariot (Diphron) was a Harma, and so arranged as merely to sit on and stand in, and it seemed more becoming to a general like Xerxes that he should ride in a Harma to Sardis. The Harmamaxa, in which one can lie down on cushions, he only used for resting while on a march. The chariots which the Kings of India, and some of the Scythian Kings used, have perhaps been of the same kind as the Harmamaxa. Curtius says (Lib. VIII, Chap. 9), the short journeys the Indian King makes on horseback, but when the journey is long, that elephants draw the chariot; and Aristides tells us that "the Scythian Kings ride not in the Hamaxen, but in the Harmamaxen, the same as the King of the Nomades. Here, then, is the Hamaxa, or the common peasant vehicle, put in contrast with the Harmamaxa, or State Chariot. The Harma is a two-wheeled chariot, which we have mentioned above.

From the accompanying drawing one can easily get an idea of such a Persian Carpentum, for that it is of Persian origin one finds by many authors.

Maximus Tyrius (Serm. 34) says: "Thou art astonished at the Median Tiara, the barbarous board, and at the Persian Harmamaxa;" and Curtius has retained this word also in Latin (Lib. III, Chap. 3,) where he writes: "Then followed fifteen so-called Harmaxens." This chariot was four-wheeled, and had a closed box all round; it was long enough to lie down in, the lower part on each side cut somewhat sloping, the outside was richly decorated, and the inside covered with soft cushions and rich hangings. The Persian ladies laid in them as in a bed, or they sat on the cushions, according to the oriental custom. The canopy was supported by four pillars or more, and was arched. Herodotus says (Lib. I.), "The Persian women ride in arched chariots (camerata), and Xenophon says (in Lib. VI. of the Cyropædie) of Panthea, wife of Abradates: "The maid servants conducted her to the Harmamaxa, laid her down, and closed the tent round about her." The curtains all round were made of rich material, and formed with the roof a tent. Xenophon says of these chariots in his Cyropædie (Lib. III, Chap. I:) "Cyrus permitted even the women, who were present in their Harmamaxa, to listen."

The Persians and other orientals were extremely solicitous with their wives, from jealousy as well as from affection. King Crœsus permitted his wives that followed him to the war to travel only by night, in order that they might not suffer too much in their closed chariots from the heat of the day.

Plutarch relates in Themistocles: "The Persians surround their wives carefully with a guard, in order that they may not be seen by any of the servants; and when they travel they ride in closed Harmamaxens." Diodorus Siculus (Book XI, Chap. 57,) says of this: "It was customary among the Persians for those who had to escort a mistress of the King from one place to another to convey her in a closed chariot, so that no one who met them might exhibit curiosity in regard to its occupants, or might ask to see her; by this method Lysithides succeeded in his schemes. He fitted up a closed chariot with costly curtains, in which he placed Themistocles and brought him in safety to Xerxes."

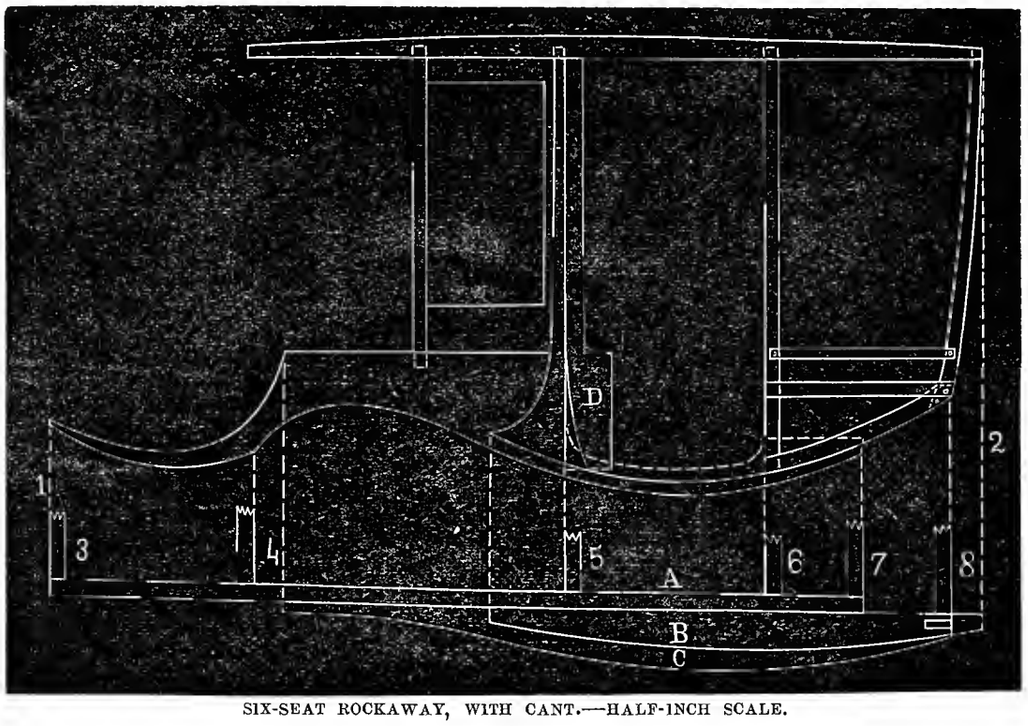
Xenophon in the Cyropædie observes: "The Asiatics are accustomed to take their concubines and most valuable property with them when they go to war; for they believe they fight with more courage if they have to defend what is most dear to them."

That these ladies often took the most magnificent chariots with them to the war becomes evident from the words of Herodotus (Lib. IX.) who says: "After the Greeks had conquered the Persians at Platea, a woman surrendered and fled to them. It was a concubine of Pharandates, a Persian prince. She sat in a Harmamaxa, quite brilliant

with gold, and her maid servants were dressed in the most gorgeous attire.

These chariots were drawn by horses or oxen, like the Carpenta. Demosthenes in Mid. says: "Lysistrata, wife of one of the richest citizens of Athens, drove always four white Scythian horses to her Harmamaxa;" and Heliodorus (Lib. III, *Æthiop.*) describes the procession of Diana with the Thessalonians and says of their priestess Chariclea: "She rode in a Harmamaxa drawn by a yoke of white oxen."

It also seems very clear, from the following passage in Xenophon's Cyropædie, that men and women together rode in these chariots. In Chap. 3 it is said: "After the Armenian princes were reconciled with Cyrus, and had embraced him, they stept with their wives into the Harmamaxes." Also that the chariot of Eumelus, King of the Kimmeries, seems, according to the words of Diodorus Siculus, to have been a Harmamaxa, of which he says (Lib. XX., Chap. 25,) he rode from Scythia to the capital (*Panticapæum*) in a four-horse chariot (*tetrippon Harma*)* four-wheeled (*tetra kyklon*) and provided with a canopy (*Scena.*) Diodorus Siculus calls the State Chariot in which Alexander's corpse was brought back, a Harmamaxa; and Athenacus writes in Lib. V., Chap. 9, "Hieronymus has won great admiration by the manner in which he built the Harmamaxa in which Alexander's corpse was carried away."



SIX-SEAT ROCKAWAY, WITH CANT.—HALF-INCH SCALE.

GEOMETRY OF CARRIAGE ARCHITECTURE.

BY A PRACTICAL COACH-MAKER.

PART TWENTY-NINTH—BODY CONSTRUCTION.

THE diagram accompanying this article is designed to instruct the builder of the six-seated rockaway, given on Plate XXXIII. of this volume, in his work, as promised last month.

Having determined the extreme length of the body, proceed and draw the dotted lines 1 and 2, as indicated on the blackboard. The numbers designate so many cross-bars used in framing the body.

On the cant, A represents the inside line of the bottom-side, B the swell of the belt-rail, C the sweep of the top-side rail, and D an end view of the door-pillar. We have purposely given this article as plainly as possible.

* How little the ancient writers cared about the right names of chariots is evident from the above-mentioned passage, where Diodorus Siculus points out the Harma as a four-wheeled charlot.

WHY PLUGS AND PUTTY PROTRUDE.

BY JOHN B. PEEK.

SINCE so much has been said through your Magazine and elsewhere, of late, on the subject of plugs and putty, I am induced to intrude upon the attention of your readers by offering for publication an article upon the same subject. To build and finish a body properly is indeed a "ticklish piece of work," and very few among us, I fear, have given this important subject the attention it so justly demands at our hands.

The rule I propose to lay before the reader is one of great accuracy, and at the same time very simple, and so far as my experience extends is the only one which recognizes the true mechanical philosophy of the construction and finishing of bodies, in order that plugs or putty may *not* show before or after the job is completely finished and in the wareroom.

In reviewing several articles on this subject, I find a wide range of views among correspondents, but as yet, in my opinion, none have given the real cause of what some persons term "plugs and putty swelling." With the experience I have had, I will say without fear of contradiction, that putty does not swell. In regard to plugs, I will admit that the plugs made by the cutter (of which the writer was the inventor) in certain cases will swell; for instance, when the body maker is inserting the plugs he is supposed to dip them in glue, a portion of the glue remaining around the edge of the plug. The painter, in rubbing down his filling (providing there be not a sufficient quantity of lead upon the pannel to prevent the water from penetrating) will find that not only does the glue raise in a circle around the plug, but in many cases he will also notice that the compressed wood around the edge of the plug has also swollen, the compression being caused by the formation of the plug from the cutter; consequently, when water penetrates, or even dampness strikes it, it tends to swell it to its natural size.

But this is not the main reason why plugs or putty

protrude. Far from it. Hope has waited in vain for Chance to solve the problem practically. All acknowledge that it is the effect of some legitimate cause, and many have endeavored to shield themselves by attributing the cause to the painter. Is the blame resting with the body-maker, the painter, or the materials? I claim it is with both the former and the latter. My reasons for making the assertion are these: How many body-makers do we see who bring their pannel-stuff immediately from the yard, lumber-shed, or some damp place, mark out, and *rip it up*—if not done by machinery—dress up, fit on, and clamp or screw to the job while the dampness still remains in the lumber. I do not say this is done in the larger shops generally, but I will say that I have seen some jobs which came from *one* of the most noted carriage establishments in New York city, where the putty denoted the precise place where each finishing nail or brad was driven, and also where each screw inserted could be easily detected, proving conclusively that the pannels were damp or not seasoned when put on. I have now shown you the cause of such effects, and like a skillful physician, having first found the cause, we are able to apply the remedy, and one which I have employed since first attempting to learn the art and mystery of coach-making.

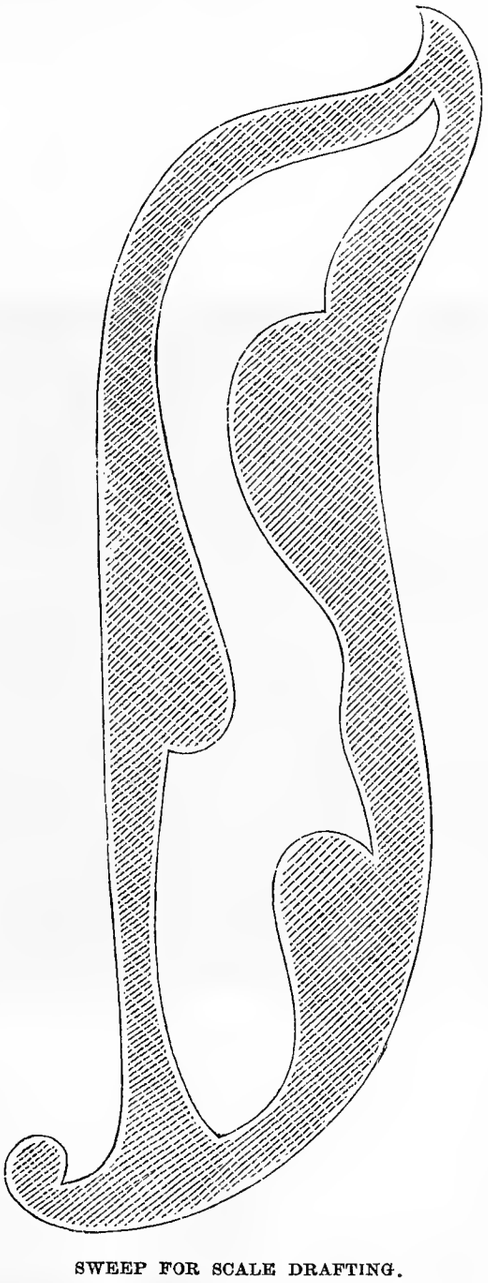
The workman should always keep a large quantity of pannel-stuff dressed up the required thickness, *over head*, in the body-shop, on racks, with sticks between each pannel, to admit the hot air from the stove or furnace in Winter, and the hot air of the atmosphere in Summer. If you do you will never more make the excuse that your pannels split on account of the frost, or that they "caved in," or that the "plugs and putty stick out" on account of the shrinking. It is all nonsense to talk about such things as "not driving your plugs on to the head of the screw" or "not sinking your nails so deep as the lead *will* fill up the hole" if the pannel is not entirely seasoned. It will most assuredly shrink if not seasoned, and all these precautions will prove of no avail. If my precautions are taken by the body-maker, and he has his pannels thoroughly seasoned, he will secure the after satisfaction of seeing his job (when finished in the ware room) faultless and perfect against plugs or nail-holes.

If I have succeeded in enlightening the minds of those who "utter complaints loud and deep" against the painter, let me say to such, try the plan I have recommended, and you will acknowledge that you owe that much-abused portion of our craft, the body-makers, many, many apologies. It is needless to add more. Hoping that my friendly, but plain-spoken suggestions for the remedy of this serious evil may be received in the same spirit that dictated them, I conclude this article.

THE FUTURE OF THE BI-CYCLE.

The two-wheeled velocipede is the *animal* which is to supersede everything else. It costs but little to purchase and still less to keep. It does not, like one Zedechias mentioned by an old historian, eat cart-loads of hay, with carts, horses, and drivers, as a relish, just to amuse Louis le Debonnaire, or any other sovereign. It does not, like Jeshurun, wax fat and kick. It is easy to handle. It never "rares up." It won't bite. It needs no check rein or halter, or any unnatural restraint. It is light and little; let alone, it will lean lovingly against the nearest support. It never flies off at a tangent unless badly managed, and under no circumstances will it shy at anything. It is not ludicrious, like the young mule, nor does it, like the Morgan colt, cut up in a ridiculously corybantic manner, nor does it in other ways disgrace the memory of its inventor. In its movements it is all grace. Its one gait is so uniform and easy, and beautiful to look at, and simple to analyze, that it would be a shame to speak of a trot in the same breath. When its driver driveth furiously, even as did Jehu, the son of Nimshi, then there may be danger to him who obstructs the way, and will not make room for the flying steed. But otherwise not. When we have nationalized the stranger, do not let us forget his origin, but where many smooth roads meet, erect to the memory, and in honor of the inventor a brave monument like that which surmounts the grave of him who first gave us pickles, and taught the world how to cure and barrel the bony herring.

SWEEPS FOR SCALE DRAFTING.—II.



SWEEP FOR SCALE DRAFTING.

We, in this issue, give our readers another installment in the series of sweeps commenced last month, in the hope that it will be favorably received. Hitherto these have been difficult to obtain, and when found, too costly for the means within the reach of ordinary workmen, most of them being imported from Europe. As we stated in a former article, all the reader has to do is to provide himself with a piece of fine-grained rosewood veneer, lay it on the surface, trace the outlines thereon with a lead pencil, cut the same to pattern, file the edges smoothly, a little rounding, and the article is ready for use. This series will be continued next month.

Home Circle.

APPEARANCES DECEPTIVE.

BY O. MERLIN.

THOU brooklet so gentle which murmuring flows
Along this sweet vale, so shady and cool;
Say! dost thou remember the nations of old,
The warrior race of which history is full?

O, tell me, hast thou rolled on since the flood,
Left these green mountains in grandeur around?
O say, in thy bosom has never disturbed
Peace, joy and contentment unceasing been found?

Perhaps some red maiden at even has come
To listen to thee in the twilight of June;
By her side a fond lover, heroic and brave,
As now was thou then in such musical tune?

I deemed thee a streamlet all gentle and mild;
Not in laughter unlike an innocent girl,
Yet listen: A voice is heard in the breeze,
Reproachful in accents, it calls thee a churl;

And tells me the streamlet I think is so sweet,
Concentrating the power of a terrible will,
In its pitiless course, a day or two since,
Burst the dam and destroyed a neighboring mill!

Thus whispered the wind; my story is told,
My confiding heart is no longer deceived;
Then I said though impressions at sight may be good,
Nature's lesson is kindly with profit received.

WINTER RAMBLINGS IN KENTUCKY.

BY PORTE PENCIL.

THERE are more travelers in the world than modes of traveling, and more modes than seasons in the year. Sterne described some of the first as they existed in the last century, but there are hundreds who distinguish the present period that Sterne never had the fortune to know. Such are intolerably infested with *cacoethes scribendi*, and run from one country to another, particularly from Europe to America, and *vice versa*, hastening over a few hundred miles as if they bore a message for his Satanic majesty and hurrying home again to scribble a book concerning the wonders they have seen. I have nothing to do with such travelers as these, or any other, and only desire the reader to understand that I am not ambitious to be classified among those gentry, although I frankly confess that I have traveled as much out of the *besoin de voyager* as any other impulse or motive.

Again, in opposition to common practice, I esteemed it of considerable importance to pass over some portions of my native land before I ventured into another, and therefore my travels for the present will be confined to the limits of the United States. My forehead exhibits locality, full; and the crown of my head bears that conclusive index which grandmother discovered so early, that I shall eat my bread in two kingdoms. But I dread confusion, and should terribly dislike to be exposed to inquiries, in a foreign kingdom, in relation to the soil, climate, manners, or institutions of America, which I, an American citizen, could not answer. To fear and pride, therefore, am I indebted for the short pilgrimage by land and water concerning which I am unexpectedly undertaking to furnish a few general particulars to fill the pages of THE NEW YORK COACH-MAKER'S MAGAZINE.

The natural features of North America are not less remarkable than the moral characteristics of its inhabitants, and as I am about to embark on my pilgrimage, I cannot find a better subject for notice than one of those magnificent rivers which rolls the collected waters from her extensive territories to the ocean. Having procured a passage upon the good steamer Clifton, we left the city of Cincinnati for our future abode at Henderson, Ky., in the expectation of reaching our destination in a very few days.

This was in the month of October. Autumnal tints had already decorated the foliage on the shores of that queen of rivers, the Ohio. Every tree was hung with long and flowing festoons of different species of vines, many loaded with clustered fruits of varied brilliancy, the rich bronzed carmine mingling beautifully with the yellow foliage which now predominated over the yet green leaves, reflecting more lively tints in the clear stream than ever landscape painter portrayed or poet imagined. The days were yet warm, the sun had assumed a rich glowing hue which at this season produces that singular phenomenon known here as the "Indian Summer." We glided down the river, meeting the ripples of numberless steamboats crossing those formed by the propulsion of our own, gazing all day on the grandeur and beauty of the wild scenery around us.

Nature, in her varied arrangements, seems to have shown partiality towards this portion of our country. As the traveler ascends or descends the Ohio, he cannot help remarking that, alternately, nearly the whole length of the river, the margin on one side is bounded by lofty hills and rolling surface, while, on the other, extensive plains of the richest alluvial soil are seen as far as the eye can reach. Islands of varied size and form rise here and there from the bosom of the water, and the winding course of the stream frequently brings you to places where the idea of being on a river of great length changes to that of floating on a lake of moderate extent. Some of these islands are of considerable size and value, while others—small and insignificant—seem as if intended for contrast, and only to enhance the general interest of the scenery. These little islands are frequently overflown during great freshets, receiving at their heads prodigious heaps of drifted timber.

As night came on, sinking in darkness the broader portions of the river, our minds became affected by strong emotions, wandering far beyond present scenes. The tinkling of bells told us that the cattle which bore them were gently roving from valley to valley, in search of food, or returning to their homes. The hooting of the great owl, or the muffled noise of its wings as it sailed smoothly over the stream, were matters of interest to us; so was the sound of the boat's distant whistle as it came winding along less and less distinctly from afar. When daylight returned, many songsters burst forth with enchanting notes, mellowed to the listening ear. Here and there the lonely mansion of the planter met the eye, showing marks of civilization. The crossing of the stream by a deer foretold how soon the hills would be covered with snow. Many sluggish tow-boats we overtook and passed, with barges attached, laden with produce from the different head-waters of the smaller rivers that pour their tributaries into the Ohio, and thence into the Mississippi, and others crowded with emigrants from distant parts in search of

new homes. Purer pleasures I never felt, nor have you, kind reader, I ween, unless you have felt the like in such company. The margin of the shores were at this season amply supplied with game. A wild turkey, a grouse, or a blue-winged teal, could be procured by the rifle in a few moments. Several happy days were passed in reaching our homes. Without any interruption, we reached Henderson, distant from Cincinnati by water about three hundred and sixty-two miles. When I think of these times, and call back to my mind the grandeur and beauty of those almost uninhabited shores, I picture to myself the dense and lofty summits of the forests that everywhere spread along the hills and overhung the margins of the stream, unmolested by the ax of the settler; when I know how dearly purchased the safe navigation of that river has been by the blood of such worthy men as Daniel Boone, and when I see that no longer any aborigines are to be found there, and that the vast herds of elk, deer and buffaloes which once pastured on these hills and in these valleys, making for themselves great roads to the several salt springs, have nearly ceased to exist; when I reflect that all this grand portion of our Union, instead of being in a state of nature, is now more or less covered with villages, farms and plantations, towns and cities, where the din of hammers and machinery is constantly heard, that the woods are fast disappearing under the axe by day and the fire by night, that hundreds and thousands of steamboats are gliding to and fro over the whole length of this majestic river, forcing commerce to take root and to prosper at every spot; when I see the surplus population of Europe coming to assist in the destruction of the forest and transplanting civilization into its dark recesses; when I remember that these extraordinary changes have taken place in the short period of fifty years, I pause and wonder, and although I know all to be a fact, can scarcely comprehend its reality.

(*To be continued.*)

Pen Illustrations of the Drafts.

EXCELSIOR OVAL GLASS HEARSE.

Illustrated on Plate XXXVII.

No design heretofore published by us—and we have given several in this magazine—has so well pleased us as this. In its production our artist has employed every point of interest applied to the modern coach, as far as these could be made available. It has, in addition to oval side-glasses, bent glasses at the fore and hind ends. The boot, too, is after the very latest style, circular and pointed at the top. The engraver only is in fault, putting the curtains *outside* of the glass when they should have been seen through the glass *inside*. This very defect, however, has its advantages, showing the internal arrangements to much effect. The single urn on the roof is much more appropriate than if more were added, as has heretofore been the custom. The inside trimmings of the finest black cloth, arranged in folds, bordered with fancy gimp, and looped with black silk cord and tassels, complete the finish. The wheels are 3 feet 4 inches and 4 feet high; spokes $1\frac{1}{8}$ inches.

DOG-CART.

Illustrated on Plate XXXVIII.

On this plate will be found a very good original design for building a dog-cart for an airing in the Central Park, or elsewhere, on a pleasant afternoon. It is very light and cannot but find favor with those having a preference for this class of vehicles. In building it is best to first make a frame and afterwards apply a pannel to the outside for the quarter. This is a very simple kind of a body to construct, and therefore does not require lengthy explanation. When not in use the hind seat should be kept turned in, then presenting the appearance of a one-seated buggy. Wheels 3 feet 6 inches and 4 feet high, hubs $3\frac{3}{4}$ by 6 inches, spokes 1 inch, rims $1\frac{1}{8}$ deep, tire 5-16 by $\frac{3}{4}$ inches.

EXCELSIOR TOP BUGGY.

Illustrated on Plate XXXIX.

Should we adopt the practice of a western periodical, and go into the "brag-business," this design would be pronounced beautiful. Without resorting to such a questionable mode of "pulling the wool over the eyes" of the public, we are willing in this instance to leave the decision as to its merits entirely with our readers. Wheels 4 feet and 4 feet 1 inch high, spokes $\frac{7}{8}$ @ 1 inch, hubs $3\frac{1}{2}$ by 6 inches, rims 1 inch. Price, $450.

THE PEARSALL VELOCIPEDE.

Illustrated on Plate XL.

This velocipede, "the only true one," is owned by the Messrs. Pearsall Brothers, of the velocipede school in Broadway, and is the invention of Prof. W. H. Lawbach, of Philadelphia. The proprietors think this machine is superior to any other constructed, and are forming a stock company to manufacture them with a capital of $300,000. The advantages claimed for this velocipede by the proprietors are as follows:

First. It turns in its own length without removing the feet from the peddles or any loss of power. *Second.* The two wheels, being joined in the centre, they always follow in the same track, making it more durable and much stronger, with half the usual weight. *Third.* The saddle is fixed to the front wheel, preventing any possibility of the wheel coming against the legs of the rider and wearing out the pants; also, by this construction no power given to propel can cause the wheel to deviate from a staight course. *Fourth.* The saddle being supported between the wheels the weight of the rider will always cause the wheel to keep in a straight line, thereby causing no exertion to go straight forward.

REYNOLDS' FOUR-WHEELED VELOCIPEDE.

Illustrated on Plate XL.

This machine is the invention of Mr. H. A. Reynolds, of this city, the gentleman being a relative of the inventor of the original clip king-bolt published by us long ago. The several patents obtained on this machine bear dates 1865, 1866 and 1868. The owner of this velocipede says it has been invented more especially for the use of ladies and children, but to render it subservient to its purpose will require some modification.

In the drawing made expressly for this magazine by one of our artists, A is the string-piece, or coupling for the front and back axletrees; B B uprights of wood framed into the string-piece, supporting the steering lever F and seat; C the seat, stationary with the uprights and supported at the back by an iron brace; D two curvilear wooden braces, answering as supports for the steering apparatus; E the steering lever; F F two 5-16 inch iron rods, which, connected with the lever, are attached to the hind axle, and when worked backward or forward turn the back wheels in "cramping;" G one of the peddles—the corresponding one being hidden from view by one of the uprights B—to which, for propulsion, the foot is applied. The wheels are made very light; hubs about 3 inches through; spokes, $\frac{3}{4}$ inch; rims, $\frac{5}{8}$ x $\frac{3}{4}$.

Sparks from the Anvil.

WELDING—NATURE AND MEANS OF THE PROCESS.

Welding, as usually considered, is the uniting of two pieces of iron or steel by the combined means of heating and compression, or by either of these alone. In the welding of wrought iron the two portions to be united are brought to a white or welding heat—a state of incipient fusion—in a furnace or forge, and then united by being brought in contact and subjected to percussion by the hammer, or to compression by rollers or dies. This is the usual style of welding.

Welding by heating alone is used in repairing broken castings of iron, and also for uniting cast steel and cast iron, as the faces of anvils united to a cast iron block, or the edges of shears and scissors to the iron stock. It is performed, in the first instance, by placing the mass of cast iron in a mold with a cavity formed by the broken piece, used as a pattern, and then replaced, a free gate being made from the point of fracture or intended union. The melted iron is poured in and allowed to flow through until, in the judgment of the operator, the two surfaces are brought to such a state of fusion as will suffice to unite the parts when the gate is closed and the iron allowed to rise in the sprew. The method of uniting cast steel and cast iron is similar, and the results are the same.

Welding, by compression alone, is, so far as we know, the result of accident, although why it might not be utilized we cannot see. It may be witnessed sometimes in the case of turbine water wheels, or other heavy machinery supported on upright shafts, the weight of which is sustained by two or more washers of steel or iron. The weight, combined with the friction, unites the disks so firmly that we have seen cases where they could not be separated by any ordinary mechanical means.

The object of heating is to soften the substance, or rather to separate its particles, thus allowing room for the reception of the particles of the other piece to be joined. In fact, it is a partial fusion of the metals, which forms a union of their particles in the same way as in melting and casting, except in the former case compression is necessary to complete the work. Although we speak of percussion, rolling, and pressing as comprehended under the general term of compression, one method may have a great advantage over another under certain circumstances. For instance, we examined, the other day, a steel bit for a horse's mouth, having a large steel ring at each end made of quarter inch steel wire. It was impossible to see where these rings were welded, although the weld was only a butt or jump weld—the parts in contact being only the cross section or diameter of the wire—and the only means of hiding the joints was the finish received by the rattle box or tumbling barrel. The method used was to coil the wire on a shaft of suitable size, as in winding a close coiled spring, and then sawing longitudinally across, separating each coil into a ring. This was passed through the hole in the head of the bit, and the ends of the ring heated to a low red only. Then the ring and bit head was laid into a recess in the matrix or stationary die of a press, which was slightly smaller in diameter than the unfinished ring, and a corresponding die was brought down upon the ring, not dropped, but with a gradual squeeze. With only this slight heat, but with the compression extending around and exerting its force on every portion of the ring, the result was perfection itself. This style of work is done by some concern in New Haven, Conn., the name of which has escaped our recollection. It would seem that this process might be economically applied to the manufacture of chains, elegant in appearance and of unusual strength. It appears that the union of the parts in a weld is effected more by the compression of the parts than by the heating. Blacksmiths understand this when they require the blows of two or more sledges to make a weld. It may be mentioned that clean surfaces are necessary, as the least amount of oxidation impairs the efficiency of the weld. The use of a flux, as borax or sand, etc., is mainly to protect the parts from the oxygen of the atmosphere.—*Scientific American.*

Paint Room.

PREPARATION OF THE WOOD FILLING FOR USE.

Mr. Editor:—As Piotrowski's wood filling is extensively used, undoubtedly some may be at a loss to ascertain from the directions the proper mode of preparing the colors, or how to apply it over the filling in order to have it dry, satisfactory and durable. After experimenting and corresponding with the inventor (through his agents) I will give you the method I have adopted, hoping that the result will prove as beneficial to others as it already has been to myself.

For carriage-parts the coats are made elastic in the following proportion: First coat, one part varnish to one part raw oil. Second coat, two parts varnish to one part oil, after which apply the color and varnish and afterwards add to the above coats one third the quantity of Japan gold size as there is oil in the second color coat. A *very little* turpentine may also be used in order to reduce the color and facilitate the labor. Of this last use just as little as possible.

I have never used color on bodies over this filling without using rough stuff first, nor do I think a good job can be done in that way; but, should any wish to try the experiment, I will give them the directions I have received. Prepare the first color coat in the same way as that of the carriage parts, after which make each coat slightly elastic, but not enough so to prevent them from dead-drying. As ordinary japans contain much turpentine, it is not advisable to use them in this system of painting.

Messrs. Valentine & Co., of Boston, have sent me a japan gold size which they suggest using as a dryer in colors that may be applied over this filling. I have tested it and the result is satisfactory. As it is a superior oil-dryer, I think it preferable to other japans in this system, and recommend it, believing it worthy of careful attention. Respectfully yours,

J. S. Leggett.

CHEMICAL PREPARATION OF PAINT.

It has been proved that the different paints employed in the decoration and preservation of timber, iron, and other constructive materials are not simple mechanical mixtures of oil and mineral substances, but true chemical compounds, and endowed with that closeness and intimacy of union that invariably attends similar combinations.

Recently the French navy has ordered a new process of preparing paints to be examined and reported upon by a special commission. By proceeding upon a chemical rather than a mechanical principle, it is stated that paints may be manufactured in any quantities in a very short space of time, and in a simple and economical manner, which would dispense with the greater portion of the heavy and expensive machinery at present required. Any one may satisfy himself of the fundamental principle upon which this new process is based. Make a small cake, of a very fluid consistency, with some water and a certain proportion of any of the following ingredients: White zinc, minium, or lamp-black. Add to this cake a quantity of linseed oil; if zinc be used, the proportion of oil will be 32 parts to 100; if minium only 5½, and for lamp-black 110 parts will be required to 100 of that substance. The mixture should be well stirred, and after a few minutes the oil will be found to be chemically united with the mineral substance, and the water to have separated and floating upon the surface. This circumstance is manifestly due to the principle of "elective affinity," by virtue of which the mineral substance leaves the water and unites itself to the oil. The water having been drawn off, the cake is then consolidated and pressed, something after the manner in which butter is made. The process can only be applied to certain mineral substances, among which are those principally used in the manufacture of oil paints.

PRODUCTION OF COTTON SEED OIL.

The cotton seed in its ordinary condition weighs about 33 pounds per bushel, of which about one-half is oil-yielding kernel, and the rest husk or hull, the latter being covered with a short woolly coat of fibres or filaments. In the usual method of extracting the oil this hull is removed by machinery, and the oil is expressed from the kernels by subjecting the same to great pressure after being ground, about 60 gallons of oil being obtained from a ton of the hulled seed. The oil weighs about 8 pounds to the gallon, and may be used not only in the manufacture of soap, but for grinding paints, and, when of first quality and properly refined, as a table oil in the place of that obtained from olives. One reason why this branch of production has not thriven better may, perhaps, be found in the employment of costly machinery, which not only involves a large original outlay of capital, but necessitates the consumption of all the seed of a large neighborhood in order to keep the apparatus constantly and thus profitably employed, while the most available method would appear to involve the use of cheap and easily-operated machinery. This would enable each proprietor to extract the oil from the seed at such times and under such circumstances as might be the most convenient, and to employ the cotton seed as manure to nearly the same extent as if the crude seed were buried in the earth, inasmuch as the oil is simply a hydro-carbon, worth comparatively little as a fertilizer, while the pomace or oil-cake containing the mineral matter and substances capable of generating ammonia could be used for manurial purposes.— *Van Nostrand's Engineering Magazine.*

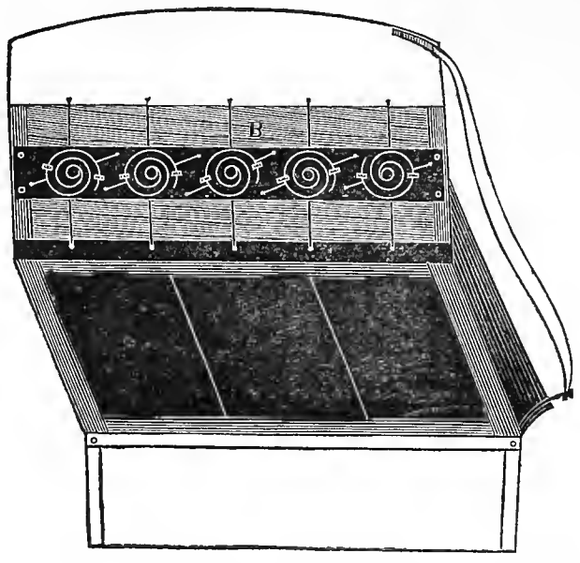
THUM'S IMPROVED VARNISH BRUSHES.

When varnishing carriage-work—one of the most difficult things to do well—nothing is more discouraging than to find a brush unsuited for the work, or coming to pieces just when fairly at the job. Those commonly for sale at the shops are of this description, unreliable. If worn down as a paint brush and afterwards taken for varnishing, the result is also generally unsatisfactory. The question then comes up, where shall we turn for relief? We answer, try those made expressly for you, from the manufactory of Mr. Charles D. Thum, whose card will be found on the second page of our cover this month. We have two, one oval, the other flat, sent us from Philadelphia, which are the best finished and fastened we have ever inspected, pointed and ready for use when leaving the manufactory. These may be had of three qualities: elastic or soft, half-elastic or medium, and bristle or stiff. We are very much pleased with them, as well as Mr. Thum himself, from whom we have recently received a personal visit for the first time. Try these brushes and we are quite certain you will like them.

Trimming Room.

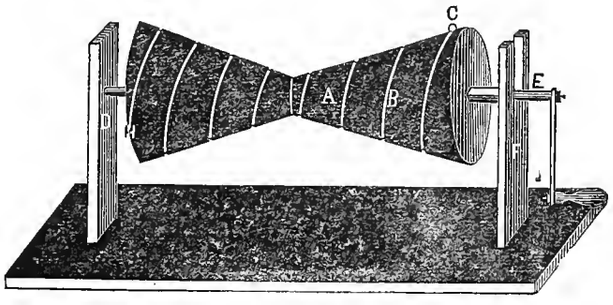
MANNER IN WHICH SPRING-BACKS ARE FORMED.

Mr. Editor:—Inclosed you will find a design for the purpose of showing the manner in which spring-backs in carriage-linings are formed. In the diagram, A repre-



sents a board three and a half inches wide, and three quarters of an inch thick, halved into the pillars, and fastened by two or three screws at each end. The springs are fastened on this board by means of harness-leather straps drawn over the bottom of them and tacked fast to the board. Next, the springs are fastened in their places by tying seaming cord to the tops and tacking fast to back-board, pillars, and cushion-board, after which a piece of hair-sack may be drawn over the whole and tacked fast to the back, pillars, and cushion-board. After this the back is made up and stuffed lightly with curled hair, but not bulging, as the springs give the fullness as shown in ordinary backs, after it has been drawn on and tacked to the top of the board, or sewed into the corded lace.

As it incurs some expense to buy the springs ready made, I inclose a design of a machine for making the spiral springs. This can be done in the shop by a couple of apprentices—one to turn the crank and the other to hold the wire. In the course of half a day these will



manufacture enough springs to last an ordinary shop six months or a year. In the diagram, A represents a block, the shape of which can be obtained from a sofa spring, and should be turned half an inch smaller than the spring, allowing for the springing of the wire after it is taken from the block. The notches made in the block (one of which is B) are cut in one-eighth by one-quarter of an inch deep. In these the spiral is formed. At C is a staple in which, at starting, one end of the wire should be inserted. D represents one of the uprights into which is inserted one end of the axle E, F the other, which is slotted at the top to allow the axle to be lifted out after the spring is shaped, and A the point of intersection of the two blocks on which the spring is made. The axle (square in shape, except at the revolving points,) passes through the entire length of the block. At the crank end the axle is wedged slightly, and at the other end it should fit loosely enough to allow of the block being removed, so as to release the spring after it has been formed. H shows where the end of the spring or wire is cut off. This I believe, concludes the explanations necessary, except that the machine in use should be attached to the bench by a couple of hand screws.

This machine has been used in the shop some five or six years, but the "native modesty" of our trimmers, or something else, has prevented them from bringing it out in a tangible shape for the benefit of others. In consequence, the business of doing so has been left to one whose *native modesty*—although he belongs to another branch of the trade—does not prevent him from being a careful observer, nor from presenting the fruits of his study, through the medium of your valuable magazine, for the benefit of the "tack-drivers." J. B. P.

Editor's Work-bench.

PROGRESS AS SHOWN IN CARRIAGE-BUILDING.

No person at all acquainted with carriage-building twenty years ago can avoid noticing the great progress it has since made in every departmental branch of the art. Not only has labor been simplified, but, as the natural consequence, the product has been very perceptibly beautified. In a word, the whole business has kept well up with the progress of art in all other branches of science, if, indeed, it has not outstripped some of them. Probably there cannot be found on this continent a better proof of this than may be gathered by the visitor to our far-famed Central Park, on any pleasant afternoon of the season, when everybody *is* "in town," unless it be a comparison of the designs in our first volume with those we are now publishing. Travelers assure us that nowhere—not even in the Champs Elysées or in Hyde Park—have they found such variety and elegance in the finish of carriages as in the city of New York and suburbs; and it requires but little faith to believe them, when our own eyes are made the witnesses from an examination of those imported from Europe.

In our day there are more than two hundred different styles of carriages built in America, some of them very graceful in design, and very light in construction. In this respect we are in advance of the Old World; but this evidently could not be did we not have timber of superior toughness, which, strengthened with iron, enables us to achieve such a result. In painting, too, we have made great progress within a few years. The gaudy red and yellow colors of the times when the North was more solicitous for Southern trade than now has been superseded by hues

less positive, but in much better taste. The ridiculous coat of arms, with which professed republicans sought to ape the aristocratic notions of the old world, have given place to the more plebeian monogram, which, as giving the owners initials, is less objectionable, and more consistent with our plainer notions generally.

There is one noticeable fact in regard to carriage-making among us we cannot pass over without censure. It is the inclination we give to a preference for European designs, instead of studying to produce original ones of our own. A self-reliant people, such as we profess to be, ought to strike out a bolder line of their own, which shall be both novel and pleasing to the eye when applied to carriage-building. We do not wish to be understood as condemning everything we find imported from abroad; far from it, for there are many points in construction, as well as design, we evidently may adopt with good results; but we wish to instil into the minds of our mechanics that spirit of independent self-reliance on their own ingenuity without which we shall make but slow progress, if not come to an entire stand still in all that constitutes a national superiority and progress.

Some of our city manufacturers, we are happy to say, have exercised judicious discrimination in this direction. Instead of the uncouth curvilinear lines formerly employed in the formation of the outline sweeps of Victoria phaetons, caleches, and other vehicles of that class, we have adopted the French manner of straightened lines with evident advantage in both appearance and lightness. A fair specimen of this improvement is shown in the back-pillar of the coupé rockaway, illustrated on plate XXVII. in this volume. The only objectionable feature in this mode of sweeping is the too sudden break at the belt for consistency with our preconceived notions of beauty, but which point is fortunately partially hidden by the wheel, and thus it escapes general notice.

Another marked improvement in American carriage construction is obtained from the combination of the coupé pillar with other sweeps found in that peculiarly national contrivance called the rockaway. This combination seems, in its adaptation, to have within a few years given a new interest to this class of vehicles, surpassing that created by its invention twenty-five or thirty years since. To our taste, this makes the most splendid equipage for a small family—where it can be afforded—ever turned out from a modern workshop. One advantage which it has over the more aristocratic coupé consists in its adaptation to the wants and conveniences of a class of citizens who are too straightened in their circumstances to keep a liveried hostler, and yet are not ashamed to do their own driving. This, while it affords ample room for the wheel in turning, allows two extra seats for the family, thereby economizing space. So many advantages has this kind of vehicle that it has for the present somewhat eclipsed the popularity of its royal rival the Victoria phaeton, so long in use among us.

Among the heavier class of vehicles popular among us is the full-sized Clarence, of lordly proportions, a fair specimen of which is presented to our readers in this volume of our monthly periodical. This has been improved upon over the European prototype, and is so ingeniously modeled that the side motion or swing imparted to the vehicle in moving supplies one of the most pleasant and luxurious sensations to the passenger hitherto known. But having already exhausted the space allotted to this subject, we must, however reluctantly, defer further remarks until next month.

FALSEHOODS OF AN APOSTATE CLINCHED.

In the Chicago *Workingman's Advocate* of December 6th, 1868, a spunky but illiterate correspondent, who calls himself "Periwinkle Pryabout," enters upon a description of what he denominates a "bloodless battle" between the editors of two "rival sheets," the whole tenor of which goes to show that while he is a bitter enemy of ours, on account of our anti-union principles, he is still disposed to screen *his* "brother," whom he calls a "naughty man" because of his apostacy. To this communication an ex-union member, over the signature "Justice," replies in a manner which seems to have completely upset "Pryabout" (Mr. Impertinent?) In a rejoinder, "Pryabout" is much cooled down under the lashings of "Justice," freely admitting that he fears Brother Ware "cannot be directed back again to the paths of virtue." From this *Advocate* battle between "the Mercenaries" we intend to produce facts calculated to nail the falsehoods and prove the hypocrisy of our enemy beyond question.

In former numbers of this Magazine we have intimated, on the authority of unionists themselves, that the *Journal* man had injured the party by his action; this he has all along strenuously denied. We also predicted that international unionism among coach-makers was dying out. This he likewise denied, but with how much truth let our unionist enemies show. The first extract, although in very bad English, by Pryabout, gives us such a view of our hero's unionism that it will "serve to point a moral and *adorn* a tale." He says that "the *Journal*," we quote him *verbatim et literatim:*

"Since it became to be a private enterprise, was never radical in its support of the labor movement, yet there was a time when it did not scruple to denounce oppression and to advocate in unequivocal terms any and all measures that it supposed would have a tendency to alleviate the condition of the poorer classes. Now, however, it never adverts to the movement except in terms in the extreme equivocal. The *Journal* was born out of the Coach-makers International Union and survived the storm which

destroyed that organization, and its desertion of its parent is, to say the least, ungrateful. Perhaps the late secretary of the Coach-makers International Union, and present editor of the *Journal*, does not look upon his neglect of the movement in the light of a desertion, but then we are all rather too prone to look upon our own short comings with a lenient eye."

This writer, whose hostility to us is undisguised, thus, in a measure, "lets the cat out of the bag" and confirms all we have charged as to Ware's defection from the Union cause.

"Justice," in a rejoinder (see the *Advocate* of January 20th) seems to be a better judge of "Hardware" than *our* friend "Pryabout," and takes this last writer to task, but, while doing so, lets us into some of the secrets of unionism highly entertaining to *outsiders*. Here is the passage:

"The remarks that I shall make will be confined entirely to the *International Journal*, that 'Pryabout' says 'claims to be the organ of the jours.' The *New York Magazine*, being a private business transaction, I have nothing to do with it, or say about it. 'Pryabout' says the *Journal*, since it became a *private* enterprise, was never radical in its support of the labor movement. I wish to ask 'Pryabout,' who made the *Journal* a private enterprise? If I am correctly informed, this same Pittsburgh Union voted to give the *Journal* to the present editor. Have your chickens already come home to roost? Remember you had ample warning of what was taking place, and yet you rushed on to destruction. Now, will 'Pryabout' point out to me any article written by the *editor*, at any time, that *was* radical on the labor movement? I defy him to do it through all the volumes. Next, he says, 'there was a time when it did not scruple to denounce oppression, and to advocate in unequivocal terms any and all measures that it supposed would have a tendency to alleviate the condition of the poorer classes.' Now, it is well known to 'Pryabout,' and all the craft, in fact, that those articles which he praises so much were written, under various names, by the then President Harding, assisted by Vice-President Peek, and why does he not give those gentlemen credit for their labor?

"Next, he says, 'the *Journal* was born out of the Coach-makers' International Union, and survived the storm which destroyed that organization.' Now, 'Pryabout' knows too well that the late secretary raised *that* storm for the express purpose of destroying the Union, *that he might get the Journal.* Have not subsequent events fully proved the truth of the warning given by the president at that time, that the *Journal* was all the secretary desired and, as soon as he got it, it would be turned against those that had nurtured and reared it. Has 'Pryabout' forgotten the means the then secretary used to raise that storm? Did he not, at the Cincinnati convention, pay himself every cent of his own salary, whilst he left the president without a cent, and the Union owing him six hundred dollars? This was done, too, after he had traveled thirteen thousand miles, introducing the *Journal* in every city in the Union and Canada. The object of the secretary was to drive him back into the workshop, after he had used him as long as he wanted him, without paying him his salary. Being a member of No. 1 at the time, and knowing the history of this whole transaction, I have deemed it my duty, in justice to an honest man, to let the coach-makers know how they were cheated out of their journal, and how, if they had taken the advice of Union No. 1, of New York, they might have had their journal to day, and 'Pryabout' might still be reading with delight (as I am sure, by his writing, the articles did delight him), fresh and stirring ones just as radical in the interest of labor as were once in volumes two and three.

From "Pryabout's" rejoinder in the *Advocate* of February 6th we take the following:

"I must admit that 'brother' Ware has been, oh! so naughty a man, but charity should impel 'Justice' to be more considerate in the selection of his phraseology. I am informed that brother W. is extremely sensitive. If this be true, 'Justice' and Charity can be of no kin, else had he kept hermetically sealed within the portals of his 'buggum' the secret of 'brother' W's. shortcomings, if shortcomings he has.

"We regret the *Journal's* desertion of the labor cause, but fear its erring footsteps cannot be directed back again to paths of virtue. We are indirectly informed that it has gotten to be, and is fast becoming, quite a pecuniary success, evidence that employers are much more liberal in the support they accord to publications in their interest (?) than are journeymen. If this information be correct we cannot hope for its redemption. Brother Ware's careful supervision of his wallet is no matter of surprise to us; *our temporal welfare is usually jealously looked after, while the charge of our moral good being is too often left prey for the dogs. But the dismemberment of the C. M. I. U., which was fast becoming to be an organization of much strength and efficiency, was one of the most serious and lamentable consequences of the Journal's apostacy.*"

We think that through the evidence we have furnished from the mouths of "Pryabout" and "Justice"—two staunch unionists—we have amply proved that the *Journal* was unrighteously wrenched from the hands of those whose interest it was originally established to advocate; and, further, that unionism has, or is dying out among coach-makers, as we have previously stated. Employers may possibly be more liberal in the support of publications devoted to their interests than are journeymen, but that the *Journal* is devoted to their interest is problematical. A canvass of this city proves that employers do not subscribe to it here. We know of several instances where, to circulate it, *it is forced upon patrons* (?) without pay. Such a mode of circulation is not calculated to advance "pecuniary success," in our estimation. In this introduction we open our columns to injured unionists.

VELOCIPEDES—IMPORTANT.

Great excitement has been created in our midst, the past month, by the publication of the following notice, to all whom it may concern:

"You are hereby notified that letters patent No. 59,915, granted Nov. 20, 1866, secures a velocipede with the two wheels, treadles, and guiding-arms, and that the velocipede you are manufacturing is an infringement upon the said patent. The present is to require you to cease the further manufacture of said velocipede, and to settle with me for all past infringements of the rights under said patent.

(Signed) "CALVIN WITTY."

Upon searching the Patent Records for 1866 we find the following:

"Patent No. 59,915. PIERRE LALLEMENT, Paris, France, assignor to himself and JAMES CARROLL, New Haven, Conn. Velocipede. Nov. 20, 1866. The fore wheel is axled in the jaws of a depending bar, which is pivoted in the frame and turned by a horizontal lever bar. This wheel is revolved by a treadle crank. CLAIM: The combination and arrangement of the two wheels, provided with the treadles and the guiding arms, so as to operate substantially as and for the purpose herein set forth.

Since this notice from Witty has gone out to the world we have made him a call, and find that he has purchased the Frenchman's patent for the United States, no doubt with an eye to business, as he refuses to sell otherwise than by shop-rights on a royalty of from 10 to 25 per cent. each machine, according to the number built. Mr. Witty says he is prepared to establish the validity of his claim. The *Velocipedist* thinks "if he does he will be a lucky man." The *missile* reminds us very much of the documents we used to see, in former days, from our old and dear friend Hansknecht, concerning "de Perch Coupling." We believe that, in any event, nothing more than the foot-crank will be found protected by law. The design which accompanies the patent of Lallement is clumsily executed, but possesses all the characteristic features embodied in the French velocipede published by us in November last (Plate XXIV.)

The *Scientific American*, which is supposed to be posted in such matters, says:

The inventor of this velocipede being an alien, proof that a velocipede similarly constructed had been introduced into this country previous to the date of application would render the patent void.

Proof that the patentee had neglected to put and continue the invention on sale within eighteen months after the date of the patent would also render it null.

The above patent does not cover the idea of making two-wheeled velocipedes, nor of applying the propelling power directly to the front wheel, nor of pivoting the wheels. It remains to be seen whether the use of foot-cranks, which appears to be the novel point, can be sustained.

Two-wheeled velocipedes, having the front wheel pivoted in the frame and guided by a horizontal bar, were in use forty years ago. * * * *

These vehicles had no foot-cranks, but were propelled by means of a toothed lever acting on the front wheel, also by pressure of the rider's feet upon the ground. Either method separately, or both combined, could be employed in propulsion, and a very high speed attained.

It is by no means certain that the "coming" velocipede is to be a two-wheeled vehicle. What is very much needed is a velocipede which shall be light, graceful, easy to mount, and easy of propulsion—something, in short, which everybody, young or old, can use with satisfaction, and without the constant fear of capsizing. * * *

There is a very wide field for study and improvement of the velocipede. The demand is far greater than the ability of makers to supply.

So far as we can ascertain, the following is a correct list of the patents granted in the United States for velocipedes up to January 1, 1869:

NAME.	RESIDENCE.	DATE.	No.
W. K. Clarkson	New York city	June 26, 1819	—
G. Parker	Providence, R. I	November 21, 1825	—
L. Kelner	Brooklyn, N. Y	January 12, 1858	19,092
S. W. Barr	Mansfield, Ohio	October 2, 1860	30,192
H. Boyd	Watertown, Wis	June 17, 1862	35,583
A. Longett	New York city	August 12, 1862	36,160
P. W. Mackenzie	Jersey City, N. J	January 19, 1864	41,310
J. Goodman	London, Eng	September 13, 1864	44,256
H. A. Reynolds	New York city	March 7, 1865	46,705
W. Quinn	Philadelphia, Pa	April 11, 1865	47,220
J. G. Wilkinson	Quincy, Ohio	March 13, 1866	53,209
H. A. Reynolds	New York city	April 24, 1866	54,207
P. LALLEMENT	PARIS, FRANCE	*November* 20, 1866	59,915
F. G. Hoeppner	New York city	May 7, 1867	64,416
C. A. Way	Charleston, N. H	November 26, 1867	71,561
"	"	"	71,562
M. Newman	Unadilla, N. J	January 7, 1868	73,029
L. Deroyier	New York city	February 4, 1868	74,058
W. G. Crossley	Cambridge, Eng	March 17, 1868	75,581
O. F. Gleason	Farmington, Me	May 5, 1868	77,478
B. P. Crandall	New York city	July 7, 1868	79,553
Hanlon Brothers	"	July 7, 1868	79,654
H. A. Reynolds	Brooklyn, N. Y	July 28, 1868	80,425
A. Christian	New York city	September 1, 1868	81,603
D. Hunt, Jr	Worcester, Mass	September 22, 1868	82,319
C. K. Bradford	Lynnfield, Mass	October 13, 1868	83,035
C. N. Cutter	Worcester, Mass	November 3, 1868	83,696
E. H. W. Blake	Chicago, Ill	November 17, 1868	84,163
S. M. Skidmore	Brooklyn, N. Y	December 29, 1868	85,337
S. A. Wood	Manitoc, Wis	December 29, 1868	85,501

The manufacture of the machines is still going on, and the demand for them is so urgent in our principal cities that it is with much difficulty they are supplied.

Our advice has been sought in this matter, and we have given it to the best of our ability. It is this. If you have not yet made any velocipedes, hold on and see how the matter will effect public opinion. If you are already committed, stop where you are—if you are anywise nervous—as we have very little doubt the law will be resorted to as a *settler* of the question as to the validity of Lallement's patent. Should you have no money to spare, you can—if now out of the scrape—afford to await the litigation of those who have. In some cities, such as New York, Cincinnati, Boston, &c., it will no doubt *pay* to combine and fight the battle out in the courts. While our auditors are waiting in suspense the jury's decision we will try and amuse them with the following from the *N. Y. Sun:*

HANS BREITMANN'S SHTORY ABOUT SCHNITZERL'S PHILOSOPEDE.

BY CHAS. G. LELAND.

Herr Schnitzerl make a philosopede
  Von of de newest kind;
It vent mitout a vheel in front,
  And hadn't none pehind.
Von vheel was in de mittel, dough,
  And it vent as sure as ecks,

For he shtraddled on de axel dree
Mit der vheel petween his lecks.

Und ven he vaut to shtart id off
He paddlet mit his veet,
Und soon he cot to go so vast
Dat avery dings he peat.
He run her out on Broader shtreet,
He shkeeted like de vind,
Hei! how he bassed de vancy craps,
And lef dem all pehind!

De vellers mit de trotting nags
Bulled oop to see him bass;
De Deutschers all erstaunisht saidt,
"*Potztausend! Was ist das?*"
Boot vaster shtill der Schnitzerl flewed
On—mit a gashtly smile;
He tidn't tooch de dirt, py shings!
Not vonce in half a mile.

Oh, vot ish all dis eartly pliss?
Oh, vot ish man's soocksess?
Oh, vot ish various kinds of dings?
Und vot ish hobbiness?
Ve find a pank note in de shtreedt,
Next dings der pank ish preak;
Ve folls, und knocks our outsides in,
Ven ve a ten shtrike make.

So vas it mit der Schnitzerlein
On his philosopede;
His feet both shlipped outsideward shoost
Ven at his extra shpede.
He felled oopon der vheel of coorse;
De vheel like blitzen flew;
Und Schnitzerl he vos schnitz in vact
For id shlished him grod in two.

Und as for his philosopede,
Id cot so shkared, men say,
It pounded onward till it vent
Ganz teufelwards afay.
Boot vhere ish now der Schnitzerl's soul?
Vhere does his shpirit pide?
In Himmel troo de endless plue,
It takes a medeor ride.

TRADE NEWS OF THE MONTH PAST.

At the New England Labor Reform Convention, recently held in Boston, Prof. Denton told his hearers that the working-men demanded ten hours for a day's work; they got it. Now they demand eight hours; they will get that. They will next demand six and get that. The man who asked of another over six hour's work was a robber. We will add, *the man who works at all is likely to be accounted a fool soon*...The printers of New York struck for higher wages on the 25th of January. Employers objected to the movement on the ground that the jours were already getting from ten to twenty per cent. more than is paid in other cities, believing that, should they accede, trade would be driven elsewhere...Mr. Sylvis, a delegate to the New York State Workingmen's Assembly at Albany, declares that a reform in the prison labor system and an enactment of a good sound apprentice law are matters of great importance and ought to be altered, and adds that he considers the eight-hour law, as it stands upon the books of the State, an insult to every working man in it.

HARD-WARE.

The public are constantly making presents to editors, and among them sometimes one gets rare curiosities. In this respect we have been peculiarly favored. Our stock of hard-ware has accumulated so fast that like the man who drew the elephant as a prize, we have scarcely known how to dispose of it. But "Sharp-stick" has fortunately come to our relief. In accordance with his suggestion we have now opened a Museum, admission to which—*the collection being a rare one*—will be for the present $5. Walk in, gentlemen, and take a look at an article from

SHARP-STICK ON HARD-WARE.

Mr. Editor:—As a constant reader of your Magazine, I naturally take an interest in its welfare, and therefore beg permission to make a suggestion which, if heeded, I am confident will greatly improve your already popular monthly. Will you not devote one column to exposing the scalawags who live and fatten upon the credulity of us poor journeymen? I could name several individuals who appear to be making a very good thing by advocating our "rights," and if you will give the space, I promise you to ventilate these efforts in a manner that will make these fellows feel that somebody is after them with a

Sharp Stick.

P. S.—I would suggest that the proposed column be headed "Hard-*ware*." S. S.

HARD-WARE ADVERTISING—HOW TO DO IT.

Copy the price current of a cotemporary, get a second-class merchant to revise it, so as to be lower in price with your reports than a decent retailer can afford to sell—the same being wholesale prices for first-class goods—then, if you have sufficient "brass," go about town and solicit advertisements. This has a tendency to bring all the trade to *your* store. The only difficulty in this matter is, some merchants "*will* not see" any benefit from advertising in *such* journals as promise to undersell them in their own market, and so may possibly *show you out of the door* with a flea in your ear.

A Dealer in Carriage Materials.

THE COACH-MAKERS' "WHAT IS IT?"

BY S. G. H. ARVEY.

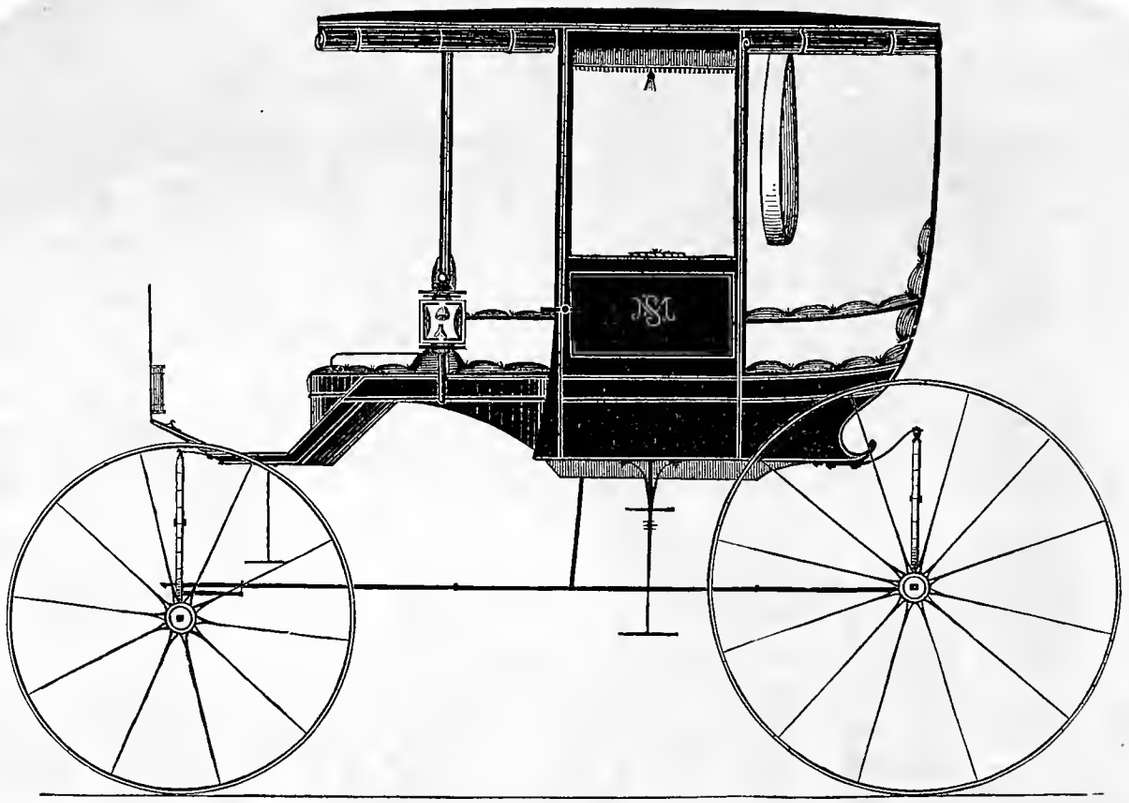
Resembling nothing seen before,
Or that we wish to see again;
'Tis not a lion, for its roar
Is like a puppy's cry of pain.

Devoid of either worth or wit,
Each month it takes a journey,
Struts and tells how big it is,
To get the peoples' money.

The Ed. he racks his shallow brain,
Something of value to produce;
His labored efforts are in vain,
Nothing comes thence but old refuse.

Odds and ends of things gone by,
The remnants of past history
Trash which he vends as latest style,
And varnishes with many a lie.

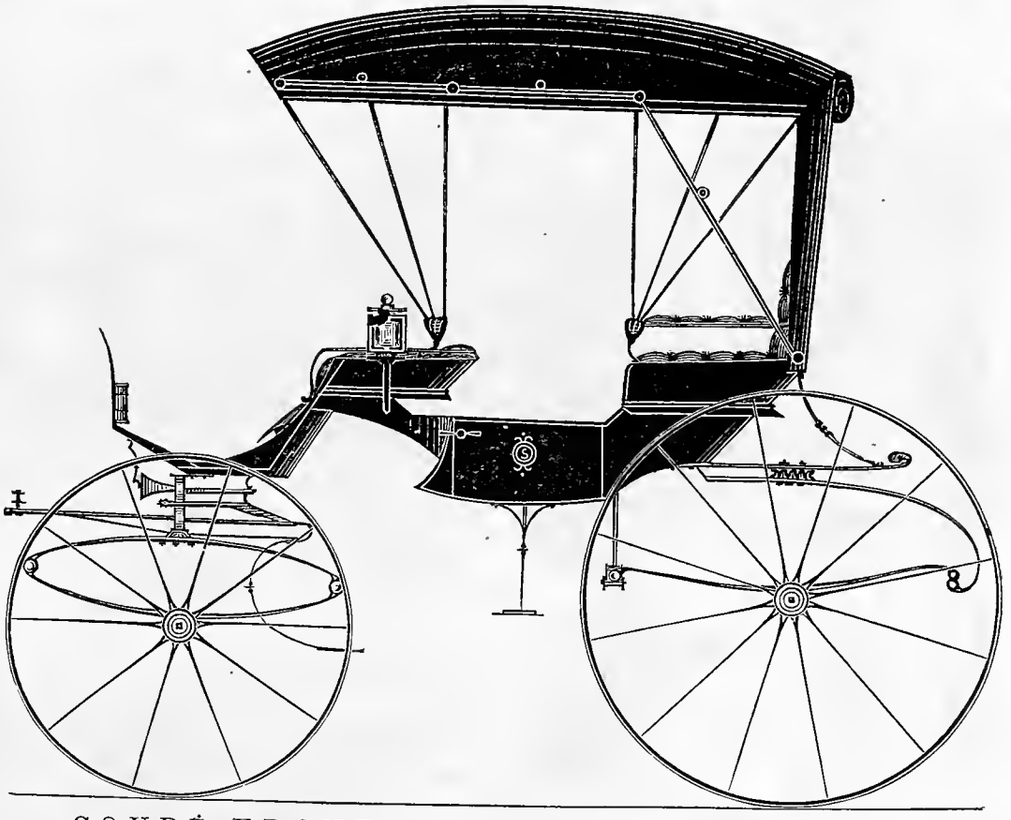
Reporting slanders which are vile
To gain a hoped for reputation,
Stooping to all that's low and mean
To *ornament* his vile creation,
'Tis after all, but sheet infernal,
A *thing*, miscalled a monthly journal.



FAN-TAIL COUPÉ ROCKAWAY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

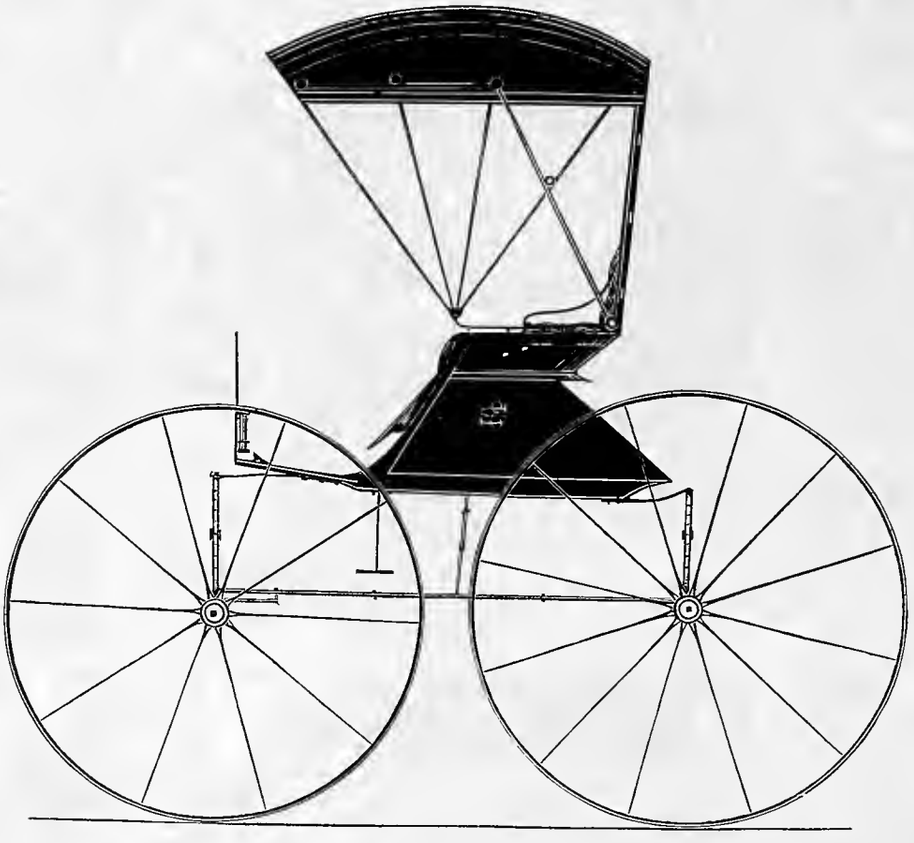
Explained on page 168.



COUPÉ-FRONT CABRIOLET.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's ***Magazine.***

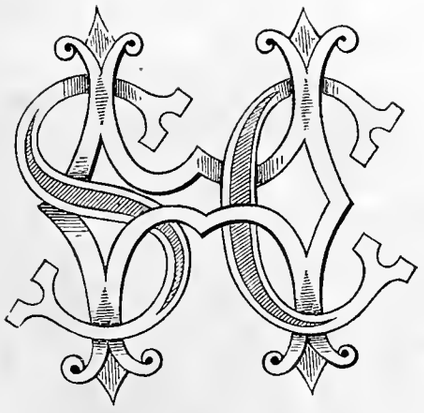
Explained on page 168



COMBINATION BUGGY.—½ IN. SCALE.

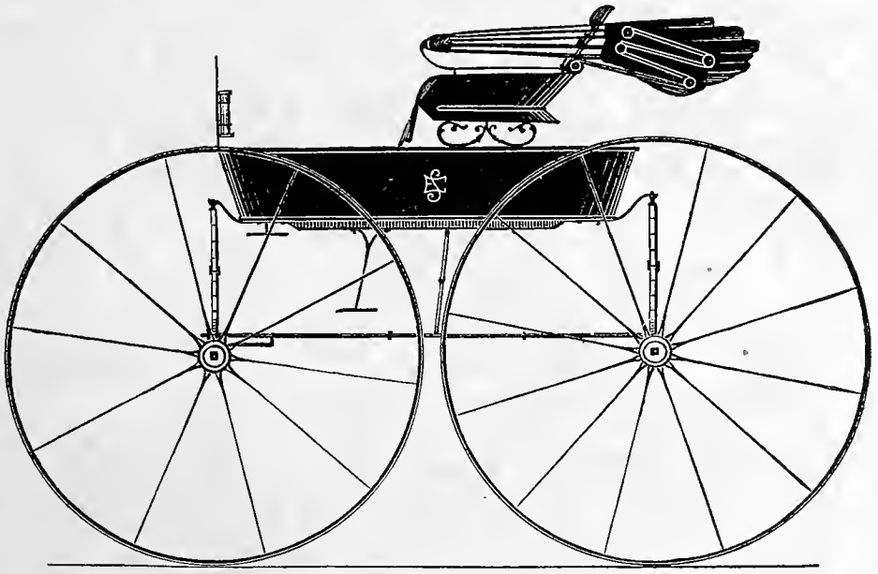
Designed expressly for the New York Coach-maker's Magazine.

Explained on page 168.



ORIGINAL MONOGRAM.—S. C. H.

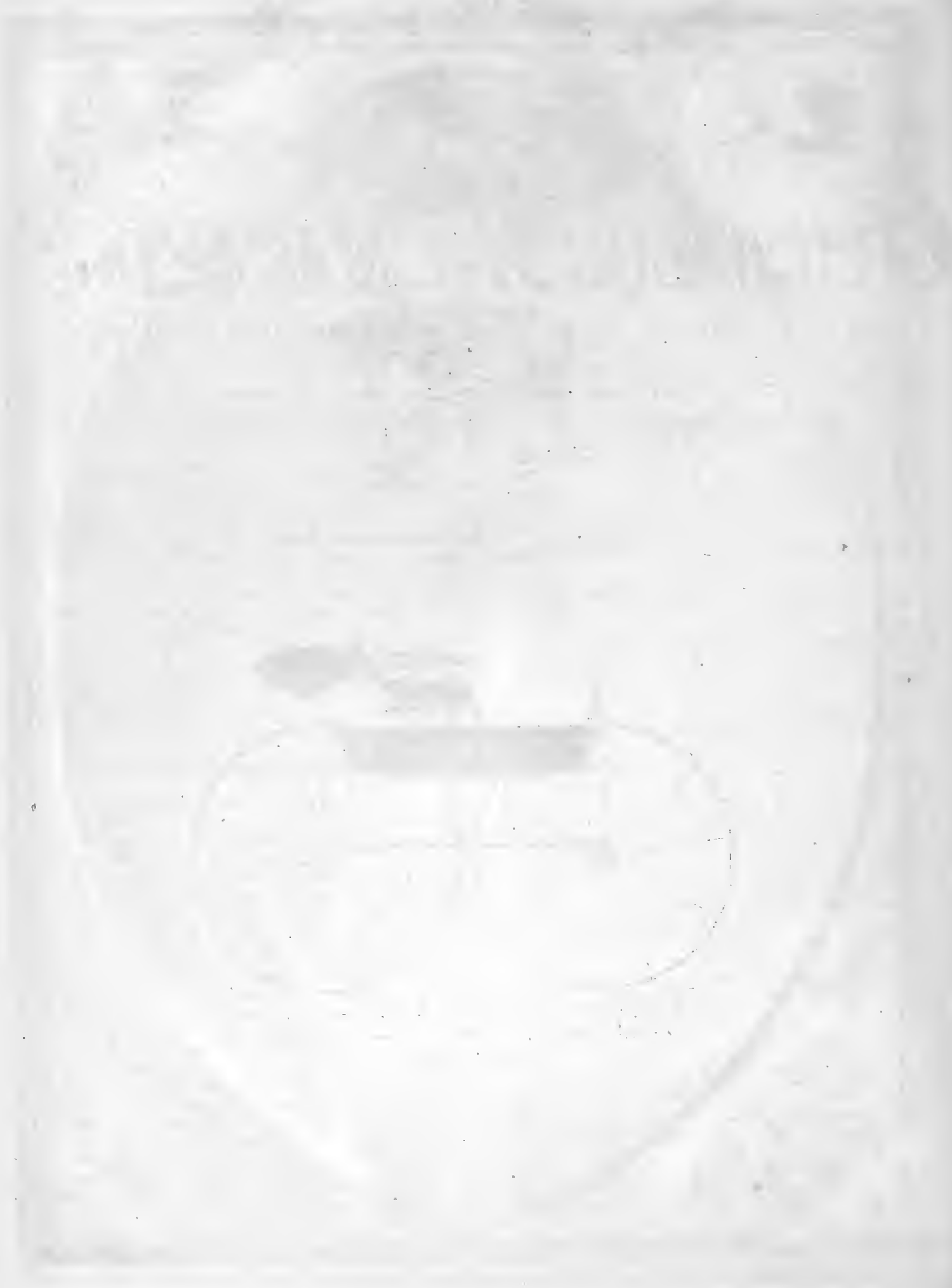
Explained on page 170.



OPEN BUGGY, WITH TOP.—$\frac{5}{8}$ IN. SCALE.

Engraved expressly for the New York Coach-maker's Magazine

Explained on page 169.



DEVOTED TO THE LITERARY, SOCIAL, AND MECHANICAL INTERESTS OF THE CRAFT.

Vol. X. NEW YORK, APRIL, 1869. No. 11.

Mechanical Literature.

THE BOSS' STORY.

BY H. S. WILLIAMS.

Chap. III.—In which he rises to the dignity of a boss, and the result.

That night I eagerly accepted the invitation of a fellow boarder to attend the theatre where a company of minstrels were turning the town with their comic delineations of negro character and odd whimsicalities. I wanted something to divert my mind from the present, and I laughed with the most boisterous at their absurd buffoonery. In a word, I forgot everything outside of their caricatures and witticisms until next morning; then I had to face my situation squarely, for I had to do something.

A trimmer who, like myself, was thrown out of employment, and almost penniless too, relieved my perplexity by proposing to start out together and seek for a job. "There are many advantages to be derived by so doing," he said, "the principle one of which is, that we stand two chances of getting a job where a person by himself only stands one; consequently if I get a job first, why, I can let you have money to go further and seek one and *vice versa*. I think this will be the best plan for us to pursue, for I suppose you, like myself, are nearly out of funds."

"Your supposition, I am sorry to say, is indisputably correct," I replied; "therefore, consider the thing settled, and the sooner we start the better."

After obtaining all the information we could from the carriage makers in town, we concluded to go to Dayton first, thence wherever circumstances might lead or direct us.

Leaving Cincinnati the same evening, we reached Dayton the next morning, where the trimmer was fortunate enough to get a situation, while I was informed that if I would go to Eaton, a town some twenty miles west of there, I would surely get a job, for a Mr. Hogan was in town only a few days before after a body-maker, and left word that if one came along to be sure and send him over. The trimmer kindly loaned me what money he had, some two dollars, and bidding him good bye, I started for Eaton by stage coach. In those days, a ride on the National Road by stage, behind four fiery horses was rather pleasant, for the road was about equal to one of your new-fangled Nicholson pavements.

It was about ten o'clock one beautiful morning in the latter part of October, that the coach drove up in front of the principal hotel at Eaton. After seeing my baggage safely deposited in the bar-room, I immediately started for Mr. Hogan's shop. I found that gentleman in the repository showing a buggy to a customer, and as soon as he was at leisure I introduced myself.

"Hey, what!" he exclaimed in a quick, nervous manner, with a smile on his face that was scarcely removed from a grin, "you a body-maker and from Cincinnati, too; well, really glad to see you, want one terrible bad, got lots of work to do and only one wood-worker besides my apprentice. Really, but I'm glad to see you; was just thinking about going down to Cincinnati to see if I could not get a hand, but now you've come and saved me the trouble. Come in and get acquainted with the boys; I have a fine lot of fellows, all gentlemen, every one; painter rather wild, will spree a little on Saturday nights, you know, but then that can't be helped."

Just then another customer came in, else I know not how much he would have told me about his hands, but given me a history of all their little peculiarities, I suppose. "Ah, yes," he continued, "gentleman wishes to see me, excuse me for a few minutes, just go in and get acquainted with the boys. Wood-shop in there, jours at work; will come in as soon as I can get off, you know." Turning away I entered the wood-shop and walked slowly down it, looking, of course, at everything with a critical eye. The workman on my left, I knew by his youthful appearance and the old job of repairing he was at, to be the apprentice. Turning to look at the one on the left, I noticed he dropped his mallet and chisel, and springing towards me, he exclaimed, "Well, if here ain't Isaac Maples, sure enough. My dear boy, where did you come from, where have you been, and how are you?" and such a shaking of the hand as he gave me I had not experienced for a long time. My astonishment was as great as his perhaps, in recognizing my old friend Harris, who worked with and had been so kind to me during my brief but miserable apprenticeship.

"Really," he continued, "you cannot imagine how glad I am to see you. I have wondered many and many times what had ever become of you and how you were getting on after your mysterious disappearance from old Higgins.

Of course you want a job and this is the very place for you, pleasant town, and Hogan is a little the best man to work for you ever saw. Really, this is too pleasant a meeting for me to work any more, at least before dinner, and it is now eleven o'clock," and throwing off his apron, he began to wash up. Just then, Mr. Hogan came in. "Another job ordered," he exclaimed, "and wants it as soon as possible. Now we can push things through. How had you rather work, by the piece or day?" he asked.

"By the piece if agreeable," I answered.

"Oh, any way will suit me; by the way, got acquainted with Mr. Harris yet?"

In a few words I explained to him that Mr. Harris and myself were old acquaintances.

"Ah." he cried, "well, really, am glad to hear it. He'll tell you what prices I give here. About the same as in Dayton, I believe; perhaps a little higher on some things."

In a few minutes it was arranged that I should take a bench next to Harris and go to work right after dinner.

"I have one of the best boarding houses in town," said Harris, as we went out together. "A widow lady, very refined and respectable, with two lovely daughters and only one boarder besides myself. I have a large room which you can share with me if you decide to board there. This is a delightful town, and I often wonder how I contented myself to remain in Connecticut as long as I did, when I can make two dollars here to one there. Your baggage is at the stage hotel, I suppose?"

"Yes, I left it there until I could see what I was going to do."

"Well, we will call at Mrs. Weston's, that's my landlady's name, introduce you, and then send for it if agreeable."

We soon arrived at the place, as it was only a couple of squares from the shop. It was a large, commodious dwelling, pleasantly situated in a retired part of the town. On entering the parlor, Mrs. Weston was called in, and in a few minutes all was settled. I was to occupy the room with Mr. Harris, and board at the same figures he was paying.

"Are the girls visible?" asked Harris.

"They will be directly," she answered. Just at present one is dressing for dinner."

"And the other, dressing for dinner I'll warrant," laughed Harris. "Be so kind as to send them in just before the bell rings, so that I can give Mr. Maples an introduction. In the mean time we will have his baggage sent round."

"Miss Emma is rather proud," said Harris, as we were going to the hotel, "but very intelligent and smart, in fact knows Byron by heart I think, while Maggie is very domestic in her habits, and invaluable in the culinary department;" which last clause prepossessed me in favor of her immediately.

On our return I took a survey of our room, and after making our toilet, we reëntered the parlor. A young lady was seated at the centre-table, with a book in her hand, to whom I was introduced as Miss Emma Weston. She was dressed in high style, and very richly too, in fact rather more so I thought than the occasion demanded. Soon after an elderly gentleman entered, Mr. Roberts, the other boarder. We were all conversing together and making ourselves as agreeable as possible, when the dining room door opened, and a young girl entered, whom I recognized by her appearance at once as Maggie, our landlady's youngest daughter. Let me try and describe her to you as she appeared then to me, for she is to bear an important part in the rest of this story. She appeared to be about seventeen, of medium height, with a finely developed figure,—such an one as sculptors love to look at and study,—and one of the most graceful carriages I ever saw. A wealth of dark auburn hair fell in a profusion of ringlets on her neck and shoulders; and her blue eyes could sparkle in mischievous merriment, or change to soft liquid depths, when the heart spoke in silent but most eloquent glances. She was not as tall as her sister, by half a head, yet to my eye she was far her superior in looks. She was dressed in a neat-fitting dark-figured calico dress, while a narrow ribbon around her neck, fastened by a small gold pin, and a plain gold ring on her finger, were all the ornaments she wore. When I was introduced, her eyes sank before my gaze, for I admired her at first sight, and I suppose was guilty of a slight indecorum by looking at her so earnestly.

"You must excuse my appearance," she said, in a low voice, for I have just left the kitchen, where I have been assisting ma. in getting dinner."

"A sure indication," I said, "that we shall have a good dinner, which I confess will prove very acceptable after my journey of the morning."

"You are correct," said Harris, "Miss Maggie has reached the *ultima thule* of culinary art, while her mother has that rare but invaluable gift of making every one who sits at her table, feel perfectly at home."

Just then the bell rang for dinner, and in a few minutes we were seated around the table partaking of an excellent repast. It was a pleasant meal. Harris was a great talker; he always had something to say to interest, and if one topic became exhausted he readily introduced another. Mr. Roberts said but little, yet that little was marked by extreme good sense, and was always to the point. Miss Emma was rather dignified, for what Rogers would call table-talk, yet there were times when her social nature would get the better of her pride, and then she was really interesting. As for Maggie, she was rather diffident, and did not have much to say; but I saw enough of her to feel confident that when we were better acquainted she would prove a very agreeable companion.

Returning to the shop after dinner, I put my tools in order, and sawed out the stuff for my first body. In due course of time it was finished, and Mr. Hogan declared himself delighted with the design and workmanship; so I considered myself settled for the winter. In truth Eaton was a pleasant place to live in; far superior to Cincinnati, in my opinion. Everything was so quiet and home-like; and then I was paid off regularly, or nearly so, with the remark, "Now if you need more money, just say so;"—in fact there was nothing to worry or fret me. Thus the winter passed away, and I can look back now and call it a happy one. I had plenty of money, plenty of work, pleasant associates, aad the best boarding house I ever saw. I soon managed to become a favorite with Mrs. Weston and her youngest daughter, but, somehow, Emma never seemed to like me very well. I suppose it was because I controverted her opinions of *Caste*, at times, and run counter to her pride. Yet Mr. Harris admired her above her sister, for he would often say, "Maggie knows more about pies and puddings than about books." This was in part true, yet it rather raised her in my esti-

mation than otherwise. I found that she was ever ready to assist her mother about the household duties; and she was never afraid to go to market, or into the kitchen and cook a meal of victuals when neeessary. Yet do not think she was unlettered or ignorant. Instead, she possessed a good education, while in history and biography she was better informed than her sister. Often during the winter, when Mr. Harris and Emma were out passing the evenings, I would take my book to the sitting room, where Mrs. Weston and Maggie were sewing, and read to them until tired, then talk awhile, and so we became the best of friends. They were quiet, happy hours; so genial to my ideas of true comfort; so social and soothing to the mind, that I was quite happy. Generally, on Sabbath evenings, I would escort both Mrs. Weston and Maggie to church; and two or three times during the winter, when the weather was bad, I went with Maggie alone, and in these walks and talks I found her, as I knew at first sight she must be, so good, so kind, so warm-hearted, so innocent, so devoted to her mother, that I was almost in love with her,—but no, I would not allow that, for what business had I, a poor jour, to love or take a wife, when I had firmly resolved, and wisely too, that I would never marry until I had a home of my own, and doing a business that would place me above the reach of want.

When Spring came, and the roads got fairly settled, Mr. Hogan sold a buggy or two every week, and orders, together with repairing, came in faster than we could do them.

One evening after supper, Harris offered me a cigar, and said, "Get your hat and let us take a walk; I have something of importance to say to you."

I had noticed that he had been very serious for several days, and after lighting our cigars, and going out, he said:

"It has been an opinion of mine for several years, which has been more fully confirmed as I grow older, that it is the height of folly to work for others, when one can just as easily work for himself. For instance, if Mr. Hogan can make money by carrying on the carriage business, why can we not make money at it?" We know more about the mechanical part; we have the ability and industry necessary to insure success; therefore, why not start a shop, and put the profits of our labor in our own pockets, instead of in the pockets of others?"

"I see but two difficulties in the way," I replied, "viz.: acquaintances and capital."

"We must make acquaintances," he replied. "We must establish a reputation. and custom will seek us. That is only a question of time. As for the capital, let us see if we cannot get over it How much ready money could you raise?"

"About one hundred and fifty dollars, perhaps more."

"Exactly; now listen. You know there is a second carriage shop in town, old Dillon's, who does nothing, however, but a little repairing; yet it is a first rate stand, and a good building. Well, Dillon wants to sell out, and he'll sell, not only cheap, but on time, for he as good as told me so a week ago; therefore, all the money we can raise will buy us a pretty good stock of goods; enough to start on at least, for I have about five hundred dollars. Then everything we can buy in town we can get on time. Now, what do you say, will you go in with me?"

I made all the objections I could think of, but he was the best talker of the two, and before we returned home he had overcome all my objections, and made me promise that if the shop spoken of could be bought on time, and reasonable figures, I would try it. The next night he reported the terms. One thousand dollars in two payments, one in six, and the balance in twelve months. It was certainly cheap enough, and to me the payments looked very reasonable.

"Speak to the boss about it," said Harris, "and let us keep on good terms if possible; for of all the foolish and unpleasant things, this petty rivalry that exists between bosses in the same town is the foolishest."

That same day, when a favorable opportunity occurred, I spoke to Mr. Hogan of our plans, and for once his natural gayety forsook him. "Well," he answered, "of course I have no right to object, for you can start a shop whenever you please, but I don't like to be left in this way."

"Give yourself no uneasiness on that score," I replied, "for we will not leave you, at least I will not, until our places are supplied. I will write to Dayton and Cincinnati at once, and let me assure you that we will not injure your business at all; for I have often heard you say you were doing all the work you wanted to do; and, as you well know, you have not half supplied the demands for carriages the past winter,—full fifty per cent having been purchased in Dayton or in Cincinnati."

This fact, indisputable as it was, not only stopped all further objections, but caused him to regain his natural gaiety.

"The more the merrier," he said, "I ain't afraid of losing my old customers, and if I can't suit, why I'll send them to you."

In a week's time we had two jours to take our places, when the necessary papers were drawn up and duly signed, by which we came in possession of old Dillon's shop.

Depositing one hundred and fifty dollars in Harris' hands, he started for Cincinnati to buy stock, and get hands to begin with, while I went to work to fix the shop up for our business.

Here let me hurry along as fast as possible, for it is a disagreeable part of my history, and I have already exceeded my original limits. I managed to buy the tools in the smith shop of Mr. Dillon for one hundred dollars, part cash, and part in six months, so that we could put a smith at work as soon at the stock arrived. Then I went out drumming for work; and managed to get two or three jobs for repairs; small ones, but they would make a beginning.

Several men having seen our advertisement, or handbills, which I caused distributed all over the surrounding country, came in and talked about getting new buggies built, if the stock and work suited them, and promised to drop in again; so that, altogether, things looked propitious. When Harris returned, he brought a smith, trimmer and painter with him, and a fine stock of goods. "I tell you," he said, "those Cincinnati fellows were wonderful clever to me. I only bought six hundred dollars' worth at first, but when I paid for it and told them we were just starting up here, they insisted on my buying another six hundred worth on six months time. so you see we have twelve hundred dollars worth of stock here, a most excellent beginning, I do assure you."

We got to work in short order, and then I found we had made one mistake. Both partners worked at the same branch of the business. If one of us had been a painter, trimmer or smith, it would have saved a jour's wages, a very considerable item to new beginners. We

soon found that we wanted hundreds of little things, most of which could be bought in town, on credit, but for some we had to send off; and we had already invested every dollar in stock. Besides, Dillon wanted fifty dollars for the smith tools, which I had promised as soon as Harris returned. So we were compelled to borrow two hundred dollars from Mr. Roberts, for a short time.

We did not get orders for new work as we expected, yet we done a good deal of repairing, especially in the trimming line; and the stock in that department went in a hurry. Every boss who has ever started business on a small scale, knows how annoying it is to be told every day or two, "such and such a thing is out," or "will have to send for so and so," and if they ever read this story, they can sympathise with me.

Four months passed away. We had only one order for a new job thus far,—a plain open buggy, for one hundred and fifty dollars. The first, and about the only rule we made, was to pay up our hands as nearly as possible; consequently we did not get in debt to them. Nearly five months had passed, and then we took in three orders for new buggies, and Harris was in fine spirits. He attended to the financiering, while I bossed the work; nevertheless we had a talk now and then, on the principal head. "Look here, Harris," I said one day, "it is only one month more, and the first payment on this shop will be due."

"Yes," he replied; "well, we'll get out these three jobs by that time if we push things, and they will about pay it."

"Very true," I answered, "but in less than a week more our Cincinnati debt will be due."

"Sure enough," he said; "well, that must be paid, and I will try and get Dillon to wait a little longer on us."

"A hard thing to do," I replied, "if what they say of him is true. Besides, we have the balance of fifty dollars to pay on these tools; and the two hundred we borrowed from Roberts,—making in all some fifteen hundred dollars, and all to be paid within a week."

"Really," he said, opening his eyes with astonishment, "I don't see how they all happened to come due about the same time; but I guess we'll manage it somehow."

"No doubt of it," I answered; "but I don't see how that *somehow* will be, as far as the payment goes."

I won't pretend to tell you how I suffered during that month. I lay awake whole nights, thinking about it, while Harris never lost an hour's sleep. I would give a good deal to have his philosophical temperament.

The month passed, and our note for the first payment on the shop was due. We were notified to that effect by the lawyer who drew up the papers; when Harris went to Dillon and got two week's grace. Then the Cincinnati debt became due, and we were notified of that.

What Harris wrote to them, I don't know, but I saw there were breakers ahead; so the first buggy that went out, I got the money and paid Roberts his two hundred dollars. Then the second one went out, and we paid up all our little store accounts about town. When the third buggy was done, we sent the man word for whom we built it, and he returned a note, stating that owing to some disappointment in money matters, he could not take it out yet for a month or so. Then I knew we were swamped. If that buggy had gone out, with the price, which was, I think, two hundred and fifty dollars, I thought we could raise as much more, and by paying Dillon and our Cincinnati dealers, two hundred and fifty each, we might get another month on the balance, and thus keep our heads above water, until we could finish off some other jobs already ordered. Just then the Cincinnati bill was presented by a lawyer, who stated that if it was not paid immediately he had orders to sue on it. Harris explained matters to him, and begged a little time, but without avail. Of course they gained the suit, and everything in the shop was attached and sold. Such sacrifices as were made then I had never seen before, nor have I since. Stock that cost one hundred dollars, sold for twenty-five. The new buggy only brought one hundred and fifty: while the unfinished work went at still lower figures. Mr. Hogan bought a good deal, while the agent of the Cincinnati firm bought nearly all the trimmings and paints at less than half what we gave for them. They saved themselves, and there was nearly one hundred dollars over, which Dillon got. Of course he took back the shop and smith tools. We were "flat broke," as the saying is; but all our debts were paid. That fact was some relief, and I felt easier after it.

"Sorry I've got all the hands I want," said Mr. Hogan, "else I'd give you a job. I told you to—"

"Hold!" I cried, "I want none of your sympathy now, nor do I wish to hear any of your prophecies. I know where the *rock* is that we struck better than you do."

The excitement of the last few days had its effect on me, and I went to bed that night with a fever. The next morning I was worse, and without my knowledge Mrs. Weston had a doctor called in. "Brain fever," he said, "but you are so young and healthy, naturally, that I do not think it will be a very dangerous case."

The same day Harris came and bid me good bye. "Am going to leave immediately." he said, "and you remain here until you hear from me." Have borrowed ten dollars to tramp on, and as soon as I get a job, I'll let you know. So don't despair, but get well as soon as you can." And so he left me, in the most miserable condition I had ever yet been in—sick and penniless.

For three long weeks I never left my bed. It was—the Doctor to the contrary notwithstanding—a most severe attack. For several days I lay on the confines of death; and it was only Maggie's kind nursing, and her mother's untiring devotion, that saved me. Surely there is no hand round a sick couch like a woman's.

It was Maggie who gave my medicines; it was her hand that mixed me cooling drinks, to allay the burning fever. And when the crisis was past, and I was recovering slowly, it was her sweet voice that read to me so soothingly, the very tales and sketches that acted like a lullaby to my weakened senses, and gave me that rest and slumber that I needed most. And, as she sat there, like an angel of mercy, by that bed of sickness, is it a wonder that, despite all my previous resolutions and resolves, I learned to love her, deeply, truly, and devotedly? For hours I would lay and gaze upon her sweet face, and into her eyes, so full of tenderness and sympathy; and then I would turn away with a sigh as I thought of my situation, and the gloomy prospects ahead. Maggie and her mother were both by my bedside one day,—Emma seldom came near me, and then only for a moment,—when I exclaimed, rather fretfully, I suppose:

"This is too much to bear: to be sick just at this time, when I need health and strength most; without a dollar,

aud putting you to such expense and trouble; really I do not see how I can ever pay you."

"Hush!" exclaimed Mrs. Weston, "not another word like that or you will offend me deeply. Never mention your indebtedness to us again until I speak of it."

"We will be amply repaid," said Maggie, with a smile, as her eyes met mine, "to see you well again, after your terrible sickness." I knew they spoke the truth, and I was silent.

One day a letter came from Harris, enclosing twenty dollars. He was in Indianapolis at work, and advised me me to remain in Ohio, as wages were low where he was, and not a very desirable town to live in. Soon I got well enough to be able to work. and as I had written to all the carriage makers I could hear of, for work, I received two letters offering me a job—one from Springfield, and the other from Bellefontaine. I was standing on the porch when I read them, and looking up, I saw Maggie trimming some rose bushes in the yard.. I went out and joined her. "Decide for me," I said, as I placed the two letters in her hands. She read them silently, then looking up, she said, "So you are going to leave us."

"I have no alternative," I replied. "I must go, for I cannot live in idleness, nor on the bounty of others."

"Then go to Bellefontaine," she replied.

"It is decided," I said. "The coach goes East at five. It is now three. I have plenty of time, and as this may be the last opportunity I shall have to speak to you alone, let me thank you for your kindness to me while I have had my home under your roof. I cannot tell how much I owe you, nor how grateful I feel for your many acts of kindness to me, particularly during my sickness; in fact I shall ever consider that to you I owe my life. And now, before we part, believe me when I tell you that I shall ever remember you with feelings of the deepest gratitude."

Turning away before she had time to reply, I hurriedly left her. I offered Mrs Weston ten dollars of the money Harris sent me, but she refused it, and then I sought the Doctor and gave it to him, promising to remit the balance due, as soon as I could earn it.

Packing up my trunk, I sent it and my tools to the stage office, and at half past four I went in the parlor and bid Emma farewell, then sought the sitting room and bid adieu to Mrs. Weston. She grasped my hand, and tears filled her eyes as I left her. Maggie was not there, and I went out in the hall. "Well," I said to myself, "it is better so, for I do not know as I have nerve enough to part with her now. Just as I reached the door a light step came up behind me, and turning, Maggie was there. She held out her hand in silence. Looking in her face, I saw there were tears in her eyes too.

"You will think of us," she said, "when you go to Bellefontaine?"

"I could never forget you," I replied; and then added after a pause, "will you answer my letters, if I write to you?"

"Most certainly, and it will be a pleasure to hear from you at any time."

"Then good bye, and may God bless you as you deserve," I replied, raising her hand to my lips.

"Good bye!" she answered with a trembling voice, and she leaned against the door post, while I hurried down the steps, and passed out on the streets. And thus I went forth again a wanderer.

THE ROMAN HACKNEY COACH.

TRANSLATED FROM GINZROT FOR THIS MAGAZINE.

Rheda meritoria was the name of the Roman hackney coach, both for open and closed, as I have mentioned before. But there were not only keepers of Rhedæs called *Rhedarii*, but others driving Cissiis and called *Cisiarii*. In those times all kinds of wagons were to be found for hack service, and generally called *Vehiculæ meritoriæ*. In those days, mail service was only instituted for state officers and for the emperor's use, and business men or others traveling for private purposes had to use the hackney vehicles.

It was left to the traveler's pleasure to go slow or quick, either in two or four wheel vehicles, or to be carried in sedan chairs, or to ride on horseback, on mules or asses. Such is the use up to our days, in Italy where the drivers (called *Vetturinii*; Latin, *Vecturini*, drivers), make a bargain with the traveler for his person and baggage, to carry him, for a certain sum of money, every expense included, service and board, all over Italy.

Such was the use with the Romans too, and even the most distinguished persons were in the habit of using the *Vehicula meritoria*; so I have said before, and Suetonius, Chap. 57, says of Julius Cæsar, that he accomplished, free of baggage, the longest journeys iu an incredibly short space of time, and Plutarch completes this report by saying (Cæs., p. 716), that this journey was accomplished so quickly that Cæsar arrived on the eighth day after his departure from Rome, at the banks of the Rhone in France.

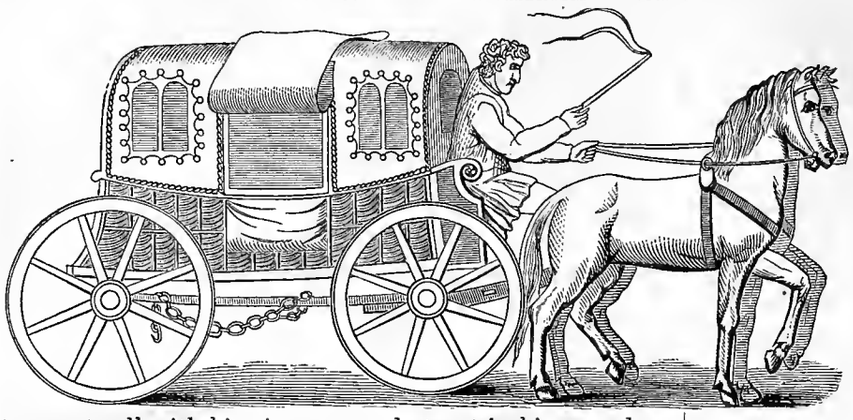
Tacitus says that when Messalina discovered her dangerous situation, she concluded to meet her husband, Claudius, and at the gate of the city only she saw a common wagon, mounted it with three other persons and drove to Oslia. No doubt, this was a hackney wagon just like our hacks, an institution which we find in our times in almost every city.

Pliny says in one of his letters (Lib. X, Chap. 26), "I decided to travel to the province, partly in market ships, partly on hackney vehicles," and Horatius, in the Three Satires, mentions that after having traveled in the market ships, he and his friends rode further on mules, sitting on "Citadelles," and in the same passage, he speaks of having traveled twenty-four *miglii* in hackney vehicles.

Such people as did rent out their mules were not called *Muliones;* these were only the driver and the hostler. We read of one Ventitius, who when a child was taken a prisoner by the elder Pompey, and who, in after times, kept mules on livery, mostly for notables traveling in the provinces. In this same capacity, he found afterwards an occasion to render a service to Julius Cæsar, in consequence of which he was first made a general, and after he distinguished himself by heroism, a prætor. Therefore satirical poems were circulated, relating to him and commencing: "You fortune tellers! what a miracle; he who used to comb our asses is now a prætor."

I have, furthermore, to say that hackney and other vehicles, used for common people, sometimes had to serve for the transportation of goods, merchandise, and furniture; we suppose because they were covered, but this was only an exceptional case.

We know that when Nero set out against the rebelled Gallians, he took particular pains to have his musical in-



struments all with him in wagons, but not in his own, but those hackmen and private people best adopted. Doubtless, mostly closed vehicles were used for these purposes, such as shown in our engraving.

Suetonius and Dionysius mention something in that line of Caligula, who had everything belonging to the crown and to his sisters, brought in haste to Gallia, believing as he did, that he could sell all these things higher under his personal supervision, and thus obtain larger sums for his favors. All the hackney wagons and even country vehicles were required for this transportation; yea, even horses driving the mills were taken, so that bread began to get scarce in Rome. No hack vehicles were then to be found in the whole city, and many suits were lost, the plaintiff not having been able to arrive at the fixed time.

ANTIQUITY OF THE VELOCIPEDE.

The velocipede mania, which is now at its hight in France, was very violent in England fifty years ago. A colored engraving published in London in February, 1819, shows the "Pedestrian Hobbyhorse, now exhibiting at 377 Strand, Mr. Johnson patentee, 75 Long Acre." It is identical with the two-wheeled velocipede now to be seen all over Paris, except that it was worked not by treadles attached to one of the wheels, but by putting the feet to the ground on each side, just as the present French velocipede has to be started. The description given on the engraving says:

"This machine is of the most simple kind, supported by two light wheels running on the same line; the front wheel turning on a pivot which, by means of a short lever, gives the direction in turning to one side or the other, the hind wheel always running in one direction. The rider mounts it and seats himself in a saddle conveniently fixed on the back of the horse (if allowed to be called so), and placed in the middle between the wheels; the feet are placed flat on the ground, so that in the first step to give the machine motion the heel should be the part of the foot to touch the ground, and so on with the other foot alternately, as if walking on the heels, observing always to begin the movement very gently. In the front, before the rider, is placed a cushion to rest the arms on while the hands hold the lever which gives direction to the machine, as also to balance it if inclining to either side when the opposite arm is pressed on the cushion."

As was the custom of the day, a cloud of colored caricatures at once appeared, the legend beneath one of which, representing a race between a horse and the velocipede, carries the origin of the machine further back:—"This famous hobbyhorse was bred in Germany; after winning everything there, it was shipped for Long Acre." Another is a fierce veteran mounted on a velocipede which is called "The Dandy Charger." One shows Richard III. offering his kingdom for a horse, and Sir William Catesby, instead of replying, "Withdraw, my lord, I'll help you to a horse," says, "My liege, here's a swift hobby will convey you from the field as fast as your legs will permit you." The following weak lines appear on another engraving:

You have heard of old Pegasus flying, no doubt;
But our Hobbies now beat him, good lack!
For when you are tired of riding about,
You may carry your horse on your back.

—*Pall Mall Gazette.*

SCREW-DRIVERS—ONCE MORE.

BY BODY MAKER.

Mr. Editor:—I had thought that the screw-driver discussion was ended, but I find in the February number, vol. x. of your Magazine, that Mr. Peek returns to the defence of his theories respecting that tool. He claims that I garbled his article, "destroying the full sense and meaning of the word deviation; thereby misleading the reader." He then quotes from his first article as follows: "It is obvious that the greater the deviation of the screw-driver from the direction of the screw, the greater must be its power, that power being proportionate to the size of the angle of deviation, or in other words, *the distance between the end of the handle and the line of direction of the screw acts as a lever.*" Now, if a screw is driven perpendicular into the floor, the line of direction of the screw is a perpendicular line, and if the screw-driver is held to that line, it will also be perpendicular. Now, how can the screw-driver deviate from that line and keep the point on the screw heat, without inclining out of a perpendicular line; and says Mr. Peek, "*the distance between the end of the handle and the line of direction of the screw acts as a lever.*" There can be no distance between the end of the handle and the line of the screw, unless the screw-driver is inclined out of the perpendicular.

He goes on to say: "It is not my intention to convey the idea that I hold my driver with a deviation from a direct line of the screw, as asserted by "Body-Maker." On the contrary I am very particular in holding it directly in a line with the screw." Is not this a plain contradiction? What does the man mean, to assert a thing and deny it, in the same article?

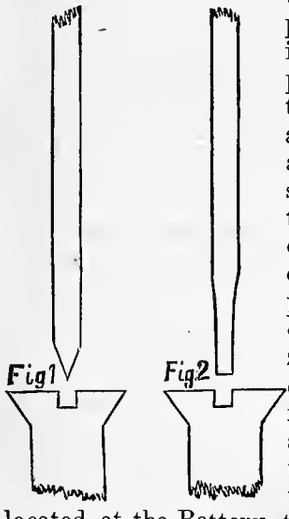
Thinking that perhaps it was my thick-headedness that could not comprehend Mr. Peek's article, I have shown it to architects and scholars, and asked them what they understood it to mean. The answer is, "I don't know what he means."

But we will drop this misunderstanding and turn to that part where there is no question about the meaning. Mr. Peek claims that an elastic screw driver is better than one that is non-elastic, because elasticity gives increased power. That power of one hundred pounds applied to the handle of a driver will turn the screw with a power of one hundred and one pounds.

This I deny. I will not argue the question any further, but will submit the following proposition to Mr. Peek. He may close this discussion with one article in your Mag-

azine, giving all the old arguments and as many new ones as he can think of, and then you submit the question to the editor of the *Scientific American* for his decision. And I propose, farther, that Mr. Peek and myself each deposit with you five dollars, making ten dollars, or the price of two years subscription for your Magazine. If the decision is in favor of Mr. Peek, the ten dollars is to pay his subscription for two years. If the decision is not in his favor, the ten dollars is to pay my subscription for two years. Dare he accept the challenge?

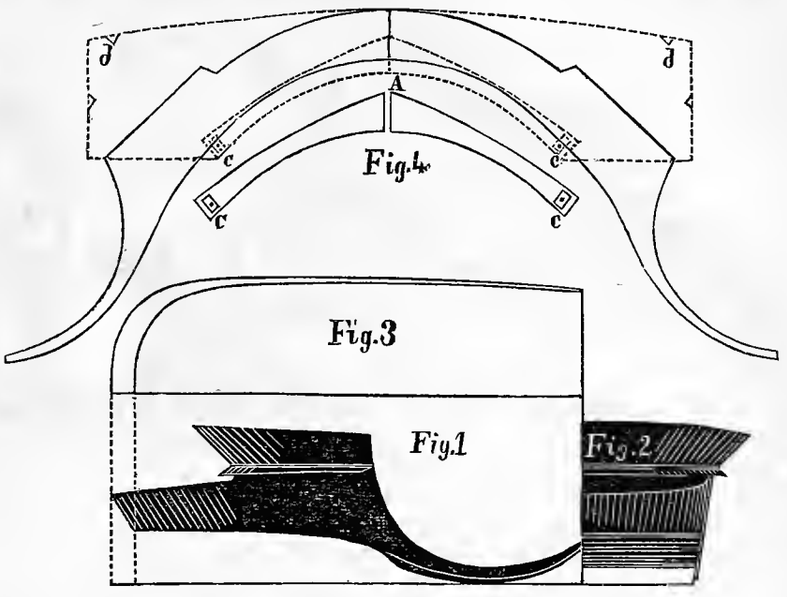
I will here observe that there is one point about a screw-driver, and a very important one, that has not been touched upon in this discussion, and that is, that the point of the driver should not be beveled off like a wedge, but that it should be as thick as the nick in the head of the screw will allow of and have it enter, and that it should not increase in thickness much, if any, until it is above the depth of the nick. The annexed diagram will explain what I mean. Fig. 1 represents the point of the screw-driver beveled off like a wedge. Where the line of direction of the screw is perpendicular, the force to drive it is applied horizontally. If the point be like Fig. 1 it represents two inclined planes to the screw, and often requires as much power applied vertically to keep it in the screw as it does horizontally to turn the screw, especially if the driver is a little oily. The point of Fig. 2, presents no inclined plane to the screw and leaves all of the power to be applied horizontally. If the editor of the *Scientific American* should decide in favor of Mr. Peek, I propose to start a manufactory in the vicinity of Central Park, the machinery to be driven by dog-power, located at the Battery, the two to be connected by a line of *elastic* shafting, extending under the pavement. I shall expect that one dog-power, by passing through the *elastic* shafting, to be multiplied to ten dog-power when it reaches the manufactory, thereby reducing the expense of running the machinery nine hundred per cent.



THE HALLOWELL PHAETON.

BY BODY MAKER.

MR. EDITOR:—In my remarks in the December number of your magazine concerning a rule to be observed in body-framing, applied to the construction of a round-corner coal-box body, I mentioned, incidentally, that now I made the coal-box body, both bottom-side and panel, each in one piece, by steaming and bending them. The very next month, a Philadelphia journal comes out with plans and drawings to illustrate the construction of the same kind of a body, claiming it as "something new, useful and practicable." I will not say that the writer obtained his ideas from my article; but it looks very much as if such might be the case. I have no complaints to make, however. That it is "useful and practicable," I admit; but, having made them, more or less, for the last eighteen months, and having seen them on the street longer ago than that, it did not appear to me to be particularly "new." The above-mentioned journal thinks they are more easily made than in the old way of making. If so, I have failed to find it out; I find it more difficult.



THE HALLOWELL PHAETON—MODE OF APPLYING THE PANELS.

I send you drawings of what I will call the Hallowell Phæton. I made a few last season, and they are well liked by some.

Fig. 1 represents the side elevation; fig. 2, the end view; fig. 3, a vertical view of half the panel, and fig. 4, the panel before it is bent. The bottom sides, or rockers, are sawed out of plank, in the usual way. The back part of the bottom side is bent in the shape of the letter U, and spliced on the top of the sides. It would be difficult to find panels wide enough to make them *all* in one piece, and, if found, would require a very wide steam box to take them in. I therefore make it my practice to get out the panel for bending as represented by the dotted lines, fig. 4. The press on which they are bent should be made hollow, so that hand-screws can be applied to secure the panel while bending. The lower edge, being cut across the grain, is very apt to check while bending, if not secured. I take two pieces of hard wood, shaped like *bb*, and three-sixteenths thick, and fasten them on the outside of the panel, at the lower edge, before I put it in the steam box. The outer ends are secured by three-quarter screws through a short piece of band iron, *cc*. The hole in the wood should be oblong, to enable the piece to slip a little when bending. A small brad will hold the two center ends until the panel is steamed and put on the press, when a hand-screw at A will secure both the pieces and the panel to the press, which should be bottom-side up, and screwed fast in a wheel-stand. A second hand-screw should be placed in the center of the panel from the under side, before commencing to bend. It is quite natural to suppose that a thin panel would require but little steaming to bend it; but I find that whitewood wants a longer time to steam than hard wood of much greater thickness, and when it is taken out of the steam box, it dries very quickly. I have help enough, and

apply boiling-hot water to the two quarters while they are bending. The panel is not so likely to break, and if the water is applied after it is fully bent, it retains its shape better when taken from the press. After the panel becomes dry, put a stout cord around the two ends in the notches *dd;* then take it from the press and join on the front ends of the panel; then glue and screw in the frame of the body. Then trim off the projecting parts, finish up, and mold to suit the fancy.

The bending of the bottom side is an easy matter, compared to the bending of the panel. Make the press open, to enable hand screws to be applied; put hoop, or thin band-iron on the outer edge, and clamp the ends, but not so tight but that they will slip a little; commence to bend in the center, at A, and apply clamps as fast as it is bent around. When cold, nail a thin strip across the two ends, and remove from the press.

SIGHTS AND SOUNDS.

BY CARRIE M. WHITNEY.

Listen to that robin singing
In the branches of yon tree;
Every note with Spring is ringing,
Fearless, gladsome, full, and free.
Robin red-breast, are you searching
For the home spots once so dear?
Can you see, from where you're perching,
Faintest landmarks of last year?

From the southern vales and fountains,
Comes a Summer tainted breeze,
Over verdant plains and mountains,
Perfumed by the orange trees.
Tiny vines their cups are lifting,
Even *here*, 'mong northern hills.
Down the glades bright green is drifting
Alongside the laughing rills.

Early violets in the woodlands
Raise their modest little heads,
By the brooks and in the fenlands
Star-eyed mosses make their beds.
"School is out," and shouting flying
To the woods the children go,
Raking dead leaves that are lying
Where the blue-eyed blossoms grow.

Willow trees in yellow dresses
Nod and wave above the stream,
Humble little water cresses
In marshy meadows gleam.
Eventide, and what a chorus
Swells up from the swamp close by,
Where the frogs are holding concert
'Neath the Spring-time's moonlit sky.

In my heart, a song of Summer
Tells of flowers and cooling shades;
Through my brain a trickling murmur
Sounds like music of cascades.
Nature, with her myriad voices
Welcomes thee, sweet Spring, once more,
Animated earth rejoices
In glad measures o'er and o'er.

Morning, noon, and evening glories
Quicken into life each hour,
Telling their successive stories
In the rainbow, shine, and shower.
God is wise and ever knoweth
Where each season's treasures are.
God is good, and ever showeth
O'er each life, a Father's care.

South Adams, Mass.

Pen Illustrations of the Drafts.

FAN-TAIL COUPÉ ROCKAWAY.

Illustrated on Plate XLI.

This drawing is from an original design by our own artist, and very successfully illustrates the latest and most fashionable features now applied to this kind of a rockaway in this locality. We recommend it to the attention of our friends who contemplate getting up stock for the Spring trade as much superior to any design yet offered to the trade. Anything further said in explanation we deem superfluous, the drawing being its own interpreter.

COUPÉ-FRONT CABRIOLET.

Illustrated on Plate XLII.

To make a good strong job in this case requires some study as well as practice. The weaker part is between the short coupé pillar and the front seat rest. As this is formed by extending the rocker, about an inch in thickness, it will require a stout rocker-plate of the best wroughtiron, say $\frac{5}{8}$ by $2\frac{3}{4}$ inches, extending from a point where the pump handle intersects the back end of the body, along the bottom edge, on nearly a sweep with it to the toe-board in front. The side quarters and doors should be framed and paneled with white-wood deal, this last well protected with glued canvass and painted to protect it from the weather. The wheels in this instance are 3 feet 3 inches and 4 feet in height; hubs, 4 by $6\frac{1}{2}$ inches; spokes, 1 inch; rims, $1\frac{1}{8}$ deep; tires $\frac{1}{4}$ by $\frac{7}{8}$ inches. The price of a city made vehicle of this description is about $900.

COMBINATION BUGGY.

Illustrated on Plate XLIII.

This buggy is made up of various designs, the yacht, the old fashioned boot, and the Stanhope pillar, making, altogether, a very pretty vehicle. The construction ought to be simple, but we find, notwithstanding the progress art has made, that there are many persons calling themselves carriage makers, still ignorant of how to proceed in a matter of this kind. For the special benefit of such, we would say, first "work out" the yacht portion, either concave or convex as taste dictates, with a "rabbet" on the top to receive the bottom of the boot, which, when glued to the side, should be flush. Over this put a molding, hiding the joint. Next, form the pillar as in the design, by molding also. There should be at least two good wooden posts on each of the insides, framed into the rocker, to support the side panel, &c. Wheels, 4 feet and 4 feet 1 inch high; spokes, $\frac{7}{8}$ by 1 inch; hubs, $3\frac{1}{4}$ by 6 inches; rims, 1 inch. New York price, $450 @ $475.

OPEN BUGGY, WITH TOP.

Illustrated on Plate XLIV.

For various uses there cannot be found a more desirble design than this, and it will never be out of fashion, let whatever changes may take place. We recommend wild cherry for the side and end panels, as the grain being close and fine renders it easily painted. This should be about half an inch thick, and free from knots and checks. The workman will find some excellent instructions for framing the round corners in a communication from a body-maker printed on page 98 (December number), of this volume. The sunken bottom may be obtained by working it out solid with the bottom side. Should the *outer* surface be made concave, it would add much to the beauty of the job when finished and hung off. Wheels, 3 feet 11 inches and 4 feet 1 inch. The other proportions should be the same as those given for the Combination Buggy on the preceding plate Price of this buggy, finished in good style, is $450.

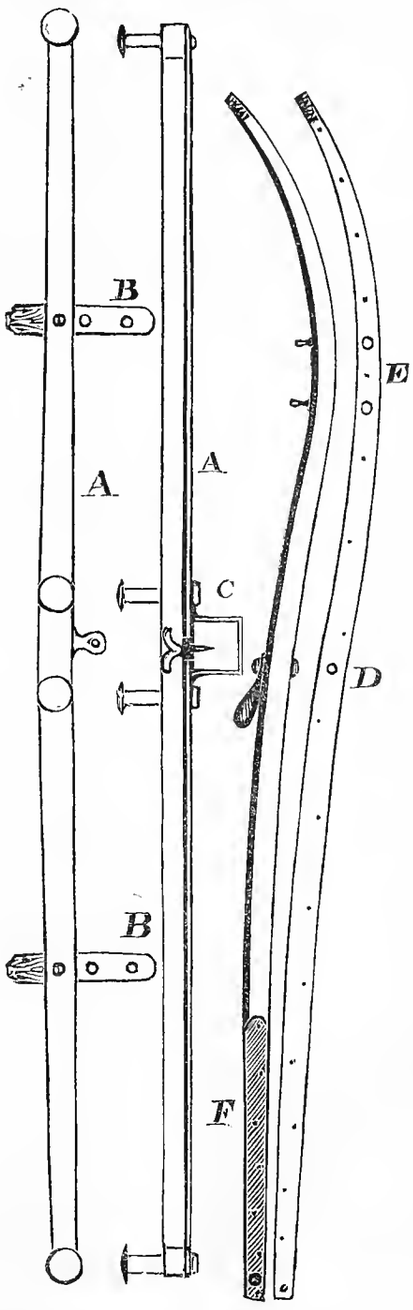
Sparks from the Anvil.

LUBRICATING SKEINS AND BOXES OF WAGON WHEELS.

The desirability of automatically supplying the requisite quantity of lubricating material to journal boxes is so evident that efforts unnumbered, some of them very successful in their way, have been made to produce apparatus for this purpose in connection with the fixed journals of shafting and the like. With regard to the journals of carriage axles and others of similar character but little has been attempted, and, as far as any general adoption or approval is concerned, still less has been accomplished in the making of self-acting lubricating mechanism for carriage and similar wheels, except of course in the lubrication of railway axles. Nevertheless, when we take into view the time lost in "greasing the wheels" of vehicles, the slovenly manner in which this is almost necessarily performed, the wear and abrasion of the "boxes" that results from imperfect lubrication, and the increase of power thus rendered essential in drawing the vehicle, the matter appears to be worthy of regard from practical mechanics, and any simple device which will automatically supply oil or grease to the bearings of vehicle wheels without waste of the lubricant or excessive first cost should meet with ready adoption by all who use wagons, carts, or carriages. There can be but little doubt that the ordinary "pipe boxes" would last twenty-five per cent longer than they do if regularly and constantly lubricated with suitable oil in the place of the grease and lard, occasionally or, as is often the case, semi-occasionally applied in the usual manner.

It is much easier to point out the necessity for such device and the characteristics which it should possess than to indicate a method by which the numerous practical obstacles in the way of its production may be overcome. In addition to the element of moderate cost a self lubricator for ordinary vehicles, in order to be successful, must be strong and simple in construction, capable of attachment to the axle without weakening the latter in any way, easy of access to be filled or replenished, and, more than all, dependent for its action upon the rotation of the wheel, so that the lubricating oil or material may not be wasted when the wagon is standing still. Probably an efficient apparatus of this kind would embrace the features of an oil reservoir fixed to the axle at the inner side of the wheel; a passage to conduct the oil from the reservoir to the interior of the box, and an annular wiper to wipe the oil from the orifice of the passage just mentioned, and distribute it to the bearing surface of the skein; but simple as this may appear in theory much ingenuity will be required in so combining the points as to meet the requirements of actual practice in the use of the class of vehicles of which we have been speaking.—*Amer. Artisan.*

COUPÊ SHAFTS AND SHIFTING BAR.



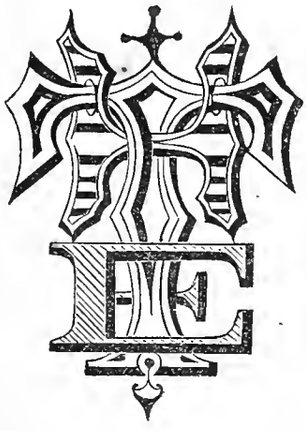
The straight bar A in our illustration should be made out of the best hickory timber; in the middle about one and three-eighths of an inch square, and tapering towards the ends, down to about one and an eighth of an inch at the ends. This bar should be plated on the bottom with half-round iron, so as to look the lighter at the edges. The projections B, should be forged solid with the bottom plate. These take the blocks fitting between the furchells. The thicker portions of the roller bolts should be made of brass or hickory to receive the ends of the traces. The clip C receiving the pole should likewise be worked solid with the bottom plate of the bar. Both figures A represent the same bar, the one a bird's-eye and the other a horizontal view.

The shafts too ought to be well plated on the bottom with half-round iron, as represented in the bottom view D, where the places of the screws are shown. The tug-stop E, should screw into the plate. The

back ends of the shafts should be plated at the sides and secured by rivets. This plate ought to extend about eighteen inches in length, along the side of the shaft, as represented in the side view at F.

Paint Room.

COLORING MONOGRAMS.



BY J. S. LEGGETT.

FACULTY of coloring and shading monograms is not confined to so limited a number of individuals as that of the designing. Notwithstanding this, a superior design may be rendered inferior by coloring, when, on the other hand, an inferior one may be made to please the eye, where the coloring is tastefully executed. I have been requested to write an article on this subject, and should the ideas my brain has already manufactured run from my pen as freely as from that of the brush, I might explain to you a variety of ways in coloring monograms. But not feeling my abilities equal to the task, should I attempt to enter into the details of the art, I fear the reader might soon cease to be edified; therefore I will endeavor to explain one way of many, and leave the matter to the judgment of the artificer.

For our present purpose, I have combined the first word of this article for a lesson. Let us suppose we were going to transfer it on a dark ground: *First*, we must apply a little dry Indian red on the opposite side of the paper from that of the design, then place it on the desired spot, and trace the outlines with a pointed stick. We now have the impression. Let us divide the letter T into two parts, while we paint the upper part Chinese vermilion, the lower part will be milori green, blending the colors together. The center lines we will have carmine over the red, and a darker shade of green over the milori. Shade the letter with the first colors used, having the green on the upper part, and the red below. We will now proceed with the letter H. In the first place divide it the same as the T. For the upper part take burnt umber, and add a little lemon chrome. The lower part we will make orange, and the horizontal lines may be made by blending yellow in the umber, and red in the orange. Shade the upper part of the letter with crimson, and the lower part with cobalt blue. We will paint the letter E with permanent blue, adding a little silver white, and making the upper part a shade lighter than the lower. The obliqne lines may be made with still darker blue. Shade the letter with orange, where the T passes through the H, line with white, and other places may be touched according to the taste. When one part of the letter passes under the other, make it darker with a still darker shade of the same color.

This style of painting will please a class of customers who are somewhat ostentatious, while others would prefer less vivid colors.

ENGLISH VARNISHES.

OUR readers, no doubt, are aware that the products of several varnish manufacturies in England have been introduced into this country, but they differ as much in quality as does that of home manufacture. We are often asked, who makes the best? Our answer is, Harland & Sons. We do not say this simply because it is advertised in our columns; but because we know it to be the best imported from actual experiment. There is something about it that causes it to flow more evenly, and the workman is far more certain to accomplish a good job than with other varnishes. We have known workmen to succeed with Harland's, after two failures with a more celebrated and better known article. Messrs. Driscoll & Palmer, 611 Broadway, New York, are the sole agents for the United States. Correspondents will be particular, and direct their orders accordingly.

ORIGINAL MONOGRAM.

Illustrated on Plate XIV.

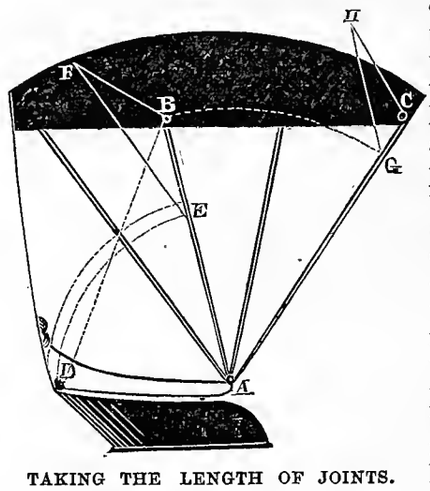
THE design we publish this month is the contribution of a correspondent. The one given on plate XXXVI was furnished by Mr. Willie Fest. The novice in painting and shading monograms will find some useful hints on the subject, in an article from Mr. Leggett, in this number.

Trimming Room.

DRAFTING TOP JOINTS.

MR. EDITOR—*Dear Sir:* Noticing your enquiry in drafting top joints for buggies and carriages, I am induced to give you my way of doing it.

After the top props are fastened, I ascertain, first (see diagram,) where the third bow will come when down even with the top props D, by taking a thread and hanging it on point A; next draw with the thread and a piece of chalk the circular line—in dots—from D to the third bow at E, and mark it; then hang the same thread on prop B, measuring to prop D; then move with that length from D to joint E, doubling the cord to suit as you see it marked on point F. In that position will the top joint stand when the top is down.



TAKING THE LENGTH OF JOINTS.

In regard to the first and third bow joint, you may follow the same rule—hang your line on joint A, and describe a circle from the horter bow to the longer one G, making it as before; next, hang your thread on point C, and holding the other end on the point mark G, getting the length to suit as marked at H. Should the points B

and C prove of the same length, then there will be no necessity of measuring, as the joint arms will be of like lengths.

L. M.

TESTING COLOR IN CLOTH.

A CORRESPONDENT says that oxalic acid is the best article for testing cloths. After wetting it with the solution hold the cloth over a hot stove. If the cloth is dyed pure indigo blue, the color will remain uninjured. If not it will be destroyed.

Editor's Work-bench.

THE LAST BUT ONE.

ONE number more will close this volume. With it we intend to publish a complete index to the tenth volume, as has heretefore been our custom—not such an imperfect one as has been given by others—but such an one as shall prove useful in studying the contents and serve as a true index to the subjetcs. We shall likewise furnish therewith a tinted and handsome title page.

The arrangements for volume eleven will be made known in the May number. In the meanwhile our friends can canvass their shops and send along the names, which will be duly entered upon our books. Notwithstanding the croakings and reckless assertions of other parties who are inimical towards us because of our anti-union sentiments, we can assure our friends that the Magazine has not been more successful, in a pecuniary sense for the past eight years, than at the present time. Even those who differ from us in sentiment, as regards the relation of labor to capital, are now—many of them—our best friends, having become completely disgusted with the peculations and bare-faced effrontery of individuals who have not only wronged them, but endeavored to plaster over these wrongs with denials, the truth of which is known to nearly every member of the Union. Our columns will hereafter indicate that unionists prefer an open and frank opponent to a hypocritical friend, whose principal object has been—as shown by his acts—to make all the money he could out of them and then to desert their cause.

We wish, then, to have it fully understood, that while we are individually as fully opposed to ALL combinations against the free movements of trade as ever, still we intend to allow our union friends the privilege of showing up the operations of these demagogues in their true light, should they choose to do so, in our next volume. The public may therefore look for some rich developments hereafter.

VELOCIPEDES—IMPORTANT,

UNDER the above heading, last month, we informed our readers, among other things, that Mr. Calvin Witty, a carriage maker of this city, had become the proprietor, by purchase, of the Lallement patent on velocipedes, obtained in this country in 1866, and that he, by circular, had notified the public that he was prepared to establish his claim to its validity, and on the strength thereof had demanded a royalty from builders of from ten to twenty-five per cent on each machine. Since then we hear that many persons find that they were too hasty in parting with their money, and have now determined to throw up their licenses and stand a prosecution if necessary. Not only have the too willing payees of Mr. Witty became discouraged, but Witty himself appears to have been put *hors de combat* by a new claimant, who all the while has been "laying low" awaiting events, and now comes out with the following notice:

MANUFACTURERS OF VELOCIPEDES.—Please take notice, that letters patent 36,161, dated August 12th, 1862, and reissued March 2d, 1869, No. 3,319. Patent No. 39,349, dated July 28th, 1863; patent 41,310, dated January 19th, 1864; granted to P. W. Mackenzie, a citizen of United States, are assigned to me; recorded in patent office, and are my property.

These patents describe and secure the use of the cranked axle in the driving wheel; the false stirrups, or foot rests on the axle arm: the saddle or other suitable seat for the rider to sit in an upright position, and by the use of his feet on the cranked axle propel the vehicle or velocipede. The steering-fork with cross head is also described and secured. This invention was patented in England in August, 1862, and was introduced into France by patent dated May, 1863, granted to P. W. Mackenzie and Stephen W. Smith; these patents are also my property.

Manufacturers of velocipedes are cautioned against infringing upon either of the above patents, and delinquents will be rigorously prosecuted.

STEPHEN W. SMITH,
90 William street, N. Y.

We understand that Witty has been trying to negotiate with Mr. Smith for his patent also, with what success we are as yet unadvised. The whole matter has become so inexplicably *mixed* that those who refuse to pay for anything at present will act the wisest part.

We find that when Lallement, the French patentee, first made his application, he did not pretend to have invented anything more than the pivoted and weighted stirrups or pedals of the cranks, as shown in the drawing of the velocipede, on Plate XXIV of this volume. This is generally discarded by all American builders, except Messrs. Wood Brothers, whose manufactures are after the French model, with some improvements. Other American builders prefer triangular or other shaped moveable stirrups. It now appears that while Lallement did not pretend to be the inventor of anything more than the *pivoted and weighted stirrups*, the attorney who drew up his specification, shrewdly included therein a claim to the "combination and arrangement of the two wheels, pro-

vided with the treadles and the guiding arms." A reference to Lallement's drawings, as given in the commissioner's report for 1866, shows that the treadles mentioned in the claim refers merely to the weighted stirrups and not the cranks, as interested persons would now fain have us believe. It is very clear that a simple patent for a combination can only cover the point actually new at the date of application, and since all parts of the velocipede except these peculiar stirrups were known previous to November 20, 1866, the probabilities are that those manufacturers who refuse to settle with Witty, will in the end triumph. In our former treatise on this subject, we told our readers on the authority of the *Scientific American*, that an alien could not hold a valid patent on anything known among us previous to his application, and further, should he neglect "to put and continue the invention on sale within eighteen months after the date of his patent. "This," says the *American Artisan*, "is not strictly correct. We suppose the statement is based upon section 6 of the Act of March 3, 1839, which is to the effect that no person is entitled to a patent for an invention which has been previously patented in a foreign country, and which has been introduced into public and common use in the United States prior to the application for the patent here. This section has no reference to alienage, but applies to American and foreign inventors alike."

Having disposed of the French claim, we will now look into that of Mr. Smith, who claims to be the assignor of one P. W. Mackenzie, an American.

What is claimed as this invention is:

1st. In combination with the saddle seat for the rider, the employment and use of a cranked axle, arms E, foot rest B, so arranged that power applied by the feet of the rider shall give motion to the vehicle, substantially as described and specified. 2d. The combination of the following elements, namely: a saddle seat for the rider, a cranked axle for propelling the vehicle by power applied by the feet of the rider, and a steering mechanism, so constructed that the direction of travel of the vehicle may be governed by the rider substantially as described and specified. 3d. The universal joint, in combination with the fulcrum of the vehicle and the steering wheel, constructed and operating substantially as and for the purposes described and specified. 4th. The hinged legs A, in combination with the body of the horse, and with the cranks C, substantially as, and for the purposes specified. 5th. The foot rests upon the arms E substantially as and for the purposes specified. 6th. The double armed levers e, g, and diagonal cords *f*, in combination with the handle I, and steering wheel B, substantially as described and specified.

Patent No. 39,349, dated July 28th, 1863, claims:

The combination of a horse or other proper seat for the rider; the employment of a cranked axle having three or more centers, substantially as described, whereby the weight of the rider, being alternately shifted from the seat to the foot rests, produces a rotary motion of the vehicle, substantially as described and set forth. I claim, in combination with a steering mechanism, substantially such as described—the fork G, and cross-head, F, or their equivalents. I claim, mounting a horse or proper seat for an erect position of the rider upon wheels, so that it may be propelled by the weight of the rider and guided in any direction, substantially as specified and set forth.

Patent No. 41,310, dated January 19th, 1864, claims:

The direct connection of a rigid anto-propelling horse or other seat for a rider, in combination with a cranked shaft with two or more centers. 2d. The stirrups or foot rests arranged directly on the cross-pin or shaft, opposite the one on which the body rests, in combination with the cranked axle and body. 3d. The direct connection and arrangement, by means of rods gg, of the bit, c, with the steering wheel or wheels behind, in combination with the cranked axle and body. 4th. The arrangement of the friction plate j, the elastic *i*, and the collar h, in combination with the cranked axle and body.

The claim which Mr. Smith threatens to enforce against the makers of velocipedes appears to be nothing more than a device originally applied to a toy or cantering horse for the use of children. This consisted of a sort of hobby horse, the fore feet of which were fastened to cranks in the axle connecting the two fore wheels, the hind feet being connected with a single wheel by which the toy was steered. The rider sitting astride of this "wooden horse" placed his feet upon a treadle on each side, formed by cranking the axle, the revolving of which imparted a bobbing motion to both horse and rider, something like that obtained by the cantering of horse flesh on the Bloomingdale road.

Some interested manufacturers of velocipedes, in this city, have had an interview with the new claimant of a "royalty" from them, and gone away with a determination to utterly discard his patent until his right shall be fully established by law. The safer way for our friends at present is to shut down on all speculators until this matter is fully settled in the courts. Meanwhile, we intend to keep them fully posted in everything relating to this subject, regardless of fear or favor.

CHARTS FOR THE SPRING TRADE.

Spring will, from present indications, open upon us much earlier than usual this year. Already, at this writing (the 10th of March), trade in carriages is moving, and one way in which to make it move still faster is to circulate, with a free hand, business charts all over the land. We could name individuals who do this very thing every year, and make money by so doing. To help along individuals who wish to avail themselves of this mode of advertising, we would state that we have designs already engraved of all varieties of carriages. From this collection

our customers can select just what they need, and have a chart made up to suit their own taste, 22 by 28 inches; fifty copies for $30, one hundred copies for $35, one hundred and fifty copies for $48, or two hundred copies for $50, card printed in. This chart will contain about twenty-five designs on the half-inch scale, the size printed in the Magazine. This chart on pasteboard will cost, per hundred, $20 extra.

We sometimes get up, to order, a chart 19 by 24 inches, holding about fourteen designs and business card. One hundred copies of this size will cost $25, two hundred $35; when printed on pasteboard, the same price extra as the larger chart, all being cut from the same sized board.

Those who prefer the leaflets of twelve pages, one page for title and eleven for as many designs, can have them, one hundred copies for $15 or two hundred for $20. Orders should be accompanied with the money to save costs of collecting bills by express, such charges now being very high.

Those who prefer the charts we publish for the trade generally, can have twenty-five copies with card in for $18, or fifty copies for $30. These are numbered 5 and 6 respectively, and are 20 by 26 inches, with about twenty-eight designs. We sell these charts for $1 a single copy, and send none away until paid for.

TRADE NEWS OF THE MONTH PAST.

The printers in New York have struck, and their places have been supplied by new hands, non-unionists.....It is reported that the bricklayers intend the coming Spring to demand from their employers eight dollars for eight hours' work. If not given, then to strike. This, however, has been denied.....The boss masons have organized and made preparations for their own defense should the workmen, defeated last year, renew the battle. The proposition to take three apprentices to one journeymen is under consideration.....One of the results of the printers' strike in New York, gives to female compositors the same rates of compensation as men. Another is that a school has been opened in one of the largest establishments for female apprentices.....The Typographical Unions have resolved to come out from both political parties and show the men in office that they misrepresent the workingmen of New York, and that "the big arm and hammer on the posters, the day before the election, will no longer take with the workingmen," and that two thousand men from the rank and file will be put on the stump to expose "the tricksters" who refuse to withdraw the city printing from a certain house, refusing to pay the union prices for setting type.....Henry Siebert, president of the Journeymen Piano Makers' Society, by a resolution of the Piano Manufacturers' Association, having been denied work at his trade, has been compelled to seek other employment.

VELOCIPEDIANA.

Such is the interest manifested by the public in velocipedes that the Patent Office in Washington is literally crowded with applications for patents on what are claimed as improvements in some parts of the machines. Within a few months about one hundred applications have been sent in with the requisite models, for examination and decision. About fifty patents have already been granted. All these, should Lallement's patent claim be maintained, will have to pay royalty on the application of the feet to the treadles in locomotion....It is said that there is a velocipede school for ladies in this city, but kept very private....In New Bedford, Mass., they build velocipedes with two hind wheels set about five inches apart, running practically as one wheel....The velocipede fever rages so furiously in some of the cities of New England that the local journals advocate vaccination to prevent the disease from spreading over the land with serious results.

HARDWARE.

CI. D. W-ANT AND "CHRONICLES" W. V-ITIOUS.

Mr. Editor: Allow me to trespass upon your patience by offering for publication in your columns, a review of the editorials and pretended correspondence of your cotemporary. I have been drawn into the ring against my own inclinations, at the earnest solicitation of many members of the C. M. U., this solicitude being caused by barefaced effrontery, domineering self-assertions, backed up by base falsehood, and so used in the columns of that sheet, as argument, in an ambidextrous manner, by the asinary editor of the publication alluded to, assisted by one who deems himself *witty*, under the caption of "Genius, the Scribe." I think I would be lacking in spirit were I to remain silent, so long as I am able to hold these worthies up before the craft in their true light. In the first place, they assume to set themselves up as critics. Will they come up to the standard of Quackenbos? Are they the compeers of Brougham or Dr. Johnson? Is their literary reputation world-wide, that they should, like harfangs and cormorants, attempt to destroy the reputation of other writers? Shade of Dr. Johnson! The one is a self-important *murderer* of the English language; the other a bilious, cross-grained, dyspeptic, thin, cavernous individual, who formerly wrote trash for the C. M. I. J., and both literary abortions, "boils, plague sores, and embossed carbuncles" in the corrupt avenues of literature.

> "Upon whose meats have these, our Cæsars, fed
> That they have grown so great."

Such bare-faced impudence the world has never seen before, as shown by those *c.* i. d. w-*ant* editors.

But as I have set out to show up the duplicity of these yoke-fellows, I will proceed to answer, in this and a few succeeding chapters, the allegations contained in that *now* delectable monthly, and "fight it out on this line" with

> "Lay on, Macduff,
> And damned be he who first cries hold enough,"

For my battle-cry. There is, perhaps, no disgust greater than that experienced by a noble and generous mind when

it comes in contact with the perfidy and littleness of a man whose heart is filled with envy and hatred. His warm and sordid views, his cunning devices to gain every advantage, his groundless suspicions, and niggardly duplicity fill a liberal mind with absolute indignation and contempt, which it feels so forcibly that it is always difficult to suppress, although almost useless to expose, for it does but little good to preach to those who have neither sense nor soul, honor nor honesty, and who are as deficient in *justice* as they are in *generosity*. No impulses of feeling, no love of *justice*, no ties of *fellowship* are acknowledged by them, but whose principal talent lies in decrying those above them,

> "With that malignant envy which turns pale
> And sickens, even if a friend prevail;
> Which merit and success pursues with hate,
> And damns the worth it cannot imitate."

Men of principle are the principal men.

> "Beneath their feet, pale envy bites her chain,
> And snaky discord whets her sting in vain."

But to the *c.* I. D. W-*ant little editorials*. At the beginning, he says, "Our financial record with the I. U. stands clear, and when called upon to give an account of our stewardship, we did not fail to do so satisfactorily to those whose business it was to investigate, and in taking the *Journal*, we paid for it every dollar it was worth." Such premeditated falsehood could not have been invented by any other being. We are prepared to verify, by the books of the I. U., now in Troy, N. Y., that his financial record *does not* stand clear, as no investigation was given until after the books passed from his hands; and, also, we are prepared to substantiate the fact by a circular, dated the 27th or 28th of February, 1868, now in the hands of our secretary, purporting to come from a portion of the ex-Council, but in fact, dictated and drawn up by that worthy, in which it states that the *Journal* was transferred, but no consideration of dollars or cents is mentioned, *nor was any offered or paid by him*, but, on the contrary, the impression the ex-Council had in the transfer was that it should revert to the I. U. at the convention (so I am very credibly informed by one who was present at the council), so that the fabrication, "we paid every dollar it was worth," falls to the ground.

In a later number, I am informed (I am not a subscriber to the *now* worthless publication) he uses the following language, "We will inform him (the editor of the N. Y. C. M. M.), that we did *not* write a letter to the convention in Troy, excusing ourself from attendance, for we had no business to call us there, having *resigned* our position as secretary," still bolstering up his false allegations with brazen faced effrontery, combined with that hypocritical whine with which he deceived so many unions in the past eighteen months. The above assertion of his causes me to quote part of a circular, issued by a committee appointed at Troy, N. Y., as evidence that he *did* write a communication to that city. It bears date August 13, 1868. I will quote the portion referred to. "A communication from Secretary Ware stated his inability to attend," signed by John Lodewick, James F. Fletcher, Ben. W. Jennings, Committee, so that the assertion that he did *not* write a letter to Troy, raises a question of veracity between himself and this committee; but being acquainted with the committee, and knowing them to be gentlemen of *noted* honor and veracity, besides the identical letter being in the hands of one of them in Troy at this time, as proof against what he knows to be a false assertion on his part, it is easy to solve that problem. In the second place, he says, "I had no business there, having *resigned* my position as secretary." *He did no such thing*, but his resignation would have been most gladly accepted by the unions, in a majority of cases, as they had lost all confidence in his integrity and honor, as well as his capacity. To prove that he committed a willful falsehood in that assertion, I return to the circular of February, 1868, in which it states "*that the secretary stands suspended until the meeting of the convention in Troy, N. Y., in August*, 1868."

In regard to his having no business there, it strikes me very forcibly that certain charges are yet standing against him, which have never been settled *satisfactorily* to the different unions, although I admit that a *farcical* exoneration did occur through the ex-Council, which is also generally supposed to have been dictated by this *c.* I. D. W-*ant* editor and "*one man power*," and issued in a circular to the unions. The proper place for this individual to answer these charges was at Troy, but his *inability* to put in his appearance and prove himself guiltless happened to be very great at that particular time; consequently he stands before the unions as when the charges were made against him (in the opinion of right thinking men).

Mr. Editor and Brother Coach-Makers: To one who has *not* an inside view of the transactions of this worthy (?), all this may appear strange, but we, knowing it to be on a *par* with many of his executive acts, *we do not wonder*. Only that he should, with such brazen faced impudence, publish before those *who know* that the allegations to which we have alluded are base falsehoods, which show plainly on the face that they were conceived in iniquity and brought forth in sin. A Member of the C. M. Union.

EDITORIAL CHIPS AND SHAVINGS.

Carriages of New York Celebrities.—The *Home Journal* indulges in the following piece of gossip:

Mr. Hiram Cranston owns, without doubt, the finest and best matched four-in-hand in this country. He has driven these lately before his handsome *caleche* on "C" springs, which was made to his order in Paris, and the turnout is, on the whole, the finest ever seen in America..... Next in style and superiority to Mr. Cranston's ranks Mr. Belmont's fine four-in-hand; and after this, that of Mr. Edward Mathews. The four-in-hand establishment of Mr. E. W. Stoughton, the well-known lawyer, also attracts great attention.....Mr. Kinahan Cornwallis, who recently purchased the *Albion* newspaper, rides down to his office every morning in an elegant establishment, a handsome brougham, a spirited steed, with brilliant caparison, and one of the best looking coachmen to be seen in the city..... Mr. C. F. O'Hara, of West Forty-seventh street, has recently added an elegant *coupé* to his stock of carriages. It is lined with elegant satin, and altogether presents a very *distingué* appearance with the beautiful horses and stylish driver. It is one of the prettiest turnouts to be seen in Central Park.....The Parisian *coupé*, imported for Mrs. Stanton, is one of the most beautiful and stylish carriages we have seen for many a day. On the avenue it attracts universal attention. It was made by the celebrated Hennings, who took the first prize for carriages at the Paris Exposition.

Fairfield County (Conn.) Iron Mine.—The *Norwalk Gazette* says a valuable iron mine has been discov-

ered the ore of which is of the same class as the noted Saulsbury mines of that State, termed bog ore. The out-croppings are to be seen on the edge of a drain on the land of Mr. Bradley, about one hundred feet north of the N. Y. and N. H. R. R., and one quarter of a mile west of Westport station. All miners know that in the third layer, about one hundred feet in depth, the richest ore is found. From appearance and knowledge of formations of this nature one should judge that the veins underlie all contiguous lands, as wells in close proximity have passed through the first vein, which is from two to three feet thick. This mine is conveniently located for transportation, and in time, when a shaft is sunk upon it and its value ascertained, one can foresee a population gather around it with all the necessary machinery and buildings in connection with their laborers and their support. If geologists will visit the out-croppings and give publicity to their views, it would be of great benefit to the State at large. If farmers were better acquainted with geology there would be more discoveries of this kind and less valuable ore lie buried in the earth.

PHILADELPHIA POETRY.—We find in the pages of a journal, the editor of which is awfully "troubled with the blues," a specimen of doggerel he calls poetry, of which the following is a *verbatim* copy:

"That eight-hours will never succeed,
A failure it's bound to be;
And that a *strike's* about the same,
The workmen have no energy."

The *sublimity* of which is only equaled by what follows:

"Last night the wind blew down our well sweep,
This morning father and I put it up—sheep."

When we inform our readers of the fact that the four lines printed above are the most meritorious and best things to be found in the whole book, they will be able to judge for themselves of its *real value*.

WAGES IN CALIFORNIA.—The fabulous prices formerly ruling in California are not realized there now, as will be seen from the annexed list: Carriage-makers (wood workmen) now get from $3.50 to $4 per day; carriage-painters, $3 to $4 per day; carriage-trimmers, $3 to $4.50, and blacksmiths, $3 to $4.75. Carriage-making has now become a large business on the Atlantic coast, and constantly increasing.

AGE OF AN OAK TREE.—A whiite oak tree was lately cut near Haney's Bridge, on the line of the Brandywine and Reading Railroad. It was two hundred and twenty five years old and six feet across the stump at the ground, and contained seven cords of wood. It was sound and healthy, and had the railroad not encroached on it might have lived several hundred years longer. When William Penn founded Philadelphia and formed a treaty with the Indians it was a good sized sapling, and was more than one hundred and twenty-five years old when the battle of Brandywine was fought. It was a giant, not of the forest, but one that had outlived the forest, and a good-sized tree when the Indians fished in the Brandywine and roamed the thick, tangled wood that lined the banks of their favorite stream in pursuit of game.

AN UNPATENTED VELOCIPEDE.

Patent Journal.

Dec. 15. (85,025) WAGON BRAKE.—D. J. Owen, Springville, Pa.: I claim, *First*, The combination of the fixed support I, with the shaft K, cranks L, L′, and brake blocks M, substantially as shown and described. *Second*, The arrangement of hand lever P, connecting rod O, and vertical arm N, with reference to the shaft K, and crank L, L′, substantially as shown and described.

22. (85,093) CARRIAGE.—Nehemiah L. Hatch, assignor to himself and Charles Dyer, Cape Elizabeth, Maine.: I claim the combination with the perches *b*, *b*, *b*, *b*, rigidly connected to the axles *e*, *f*, and united to each other by the sliding joint *c*, *d*, of the rigid draw bar *m*, and jointed bolt A, all as and for the purposes set forth.

(85,096) FASTENING FOR WAGON BODIES.—Amos A. Hotchkiss, Hannibal, Mo.: I claim the fastening for wagon bodies above described, consisting of hooks *g*, *g′*, etc., *o*, *o′*, etc., bolts *c*, *c′*, etc., screws *d*, *d′*, etc., and rods, all arranged and operating substantially as and for the purpose shown and specified.

(85,108, antedated December 11, 1868) DOOR FOR CARRIAGES, ETC.—Philander Leek, Hartford, Conn.: I claim the combination of the two parts *e* and *f*, with the catch or spring *h*, or its equivalent, and the framework *a*, constructed and operating substantially as described.

(85,144) CARRIAGE SPRING.—Anson C. Stowe, San José, Cal.: I claim the combination, with the supporting device, consisting of bars H, links I, arms G, shafts E, and springs F, of the equalizing device, consisting of arms K, rods L, and lever M, the whole being constructed and arranged substantially as herein described.

(85,151) Wagon Brake.—George Wesley Welsh and George Wylie, Arlington, Wis.: We claim the arrangement of the bent rod G, having the pendent portion *a*, the arms I, I, shaft J, shoes K, spiral springs *d*, and rod D, with relation to the bolt E, the hounds and the wheels B, all operating as described, for the purpose specified.

(85,235) Tire Tightener.—A. O. Morgan, assignor to himself and William B. Loller, Nashville, Ohio: I claim the tire A, beeveld at each end, as shown, and provided with the oblong projection *d*, in combination with the metallic box C, having dovetailed tongues *a*, *a*, and sliding door *b*, shielding the screw F, all substantially as set forth.

CURRENT PRICES FOR CARRIAGE MATERIALS.

CORRECTED MONTHLY FOR THE NEW YORK COACH-MAKER'S MAGAZINE.
New York, March. 18, 1869.

Apron hooks and rings, per gross, $1.25 *a* $1.75.
Axle-clips, according to length, per dozen, 50c. to 80c.
Axles, common (long stock), per lb, 8c.
Axles, plain taper, 1 in. and under, $5.50; 1⅛, $6.50; 1¼, $7.50; 1⅜, $9.50; 1½, $10.50.
Do. Swelled taper, 1 in. and under, $7.00; 1⅛, $7.50; 1¼, $8.75; 1⅜, $10.75; 1½, $13.00.
Do. Half pat., 1 in. $10; 1⅛, $11; 1¼, $13; 1⅜, $15.50; 1½, $18.50.
Do. do. Homogeneous steel, ⅞ in., $11.00; ¾, $11; ⅞, $12.00; long drafts, $2.50 extra.

☞ These are prices for first-class axles. Inferior class sold from $1 to $8 less.

Bands, plated rim, 3 in., $1.75; 3 in., $2, larger sizes proportionate.
Do. Mail patent, $3.00 *a* $5.00.
Do. galvanized, 3½ in. and under, $1; larger, $1 *a* $2.
Bent poles, each $1.00 to $1.50.
Do. rims, extra hickory, $2.75 to $3.50.
Do. seat rails, 50c. each, or $5.50 per doz.
Do. shafts, $6 to $9 per bundle of 6 pairs.
Bolts, Philadelphia, list. 30 off.
Do. T, per 100, $3 *a* $3.50.
Bows, per set, light, $1.00; heavy, $2.00.
Buckles, per grs. ½ in., $1, ⅝, $1.12; ¾, $1.25; ⅞, $1 75; 1, $2.00.
Buckram, per yard, 18 *a* 23c.
Burlap, per yard, 14 *a* 16c.
Buttons, japanned, per paper, 20c.; per large gross, $2.25.
Carriage-parts, buggy, carved, $4.50 *a* $6.
Carpets, Brussels, $1.75 *a* $2; velvet, $2.75 *a* $4; oil-cloth, 45 *a* 70c.
Castings, malleable iron, per lb, 15c.
Chapman rubber, $2.50 *a* $3.00, doz. pr.
Clip-kingbolts, each, 40c., or $4.50 per dozen.
Cloths, body, $3.50 *a* $5; lining, $2.50 *a* $3. (See *Enameled.*)
Cord, seaming, per lb, 35c.; netting, per yard, 8c.
Cotelines, per yard, $4 *a* $8.
Curtain frames, per dozen, $1.25 *a* $2.50.
Do. rollers, each, $1.50.
Damask, German cotton, double width, per piece, $15 *a* $22.
Dashes, buggy, $1.75.
Door-handles, stiff, $1 *a* $3; coach drop, per pair, $3 *a* $4.
Drugget, felt, $1.75 *a* $2.
Enameled cloth, muslin, 5-4, 40c.; 6-4, 75c.
Enameled Drills, 48 in., 55c.; 5-4, 50c.
Do. Ducks, 50 in., 75c.; 5–4, 70c.; 6–4, 80c.

☞ No quotations for other enameled goods.

Felloe plates, wrought, per lb., all sizes, 20c.
Felloes (Rims), $1.50 *a* $3.
Fifth-wheels, wrought, $1.50 *a* $2.00.
Fringes, festoon, per piece, $2; narrow, per yard, 18c.

☞ For a buggy-top two pieces are required, and sometimes three.

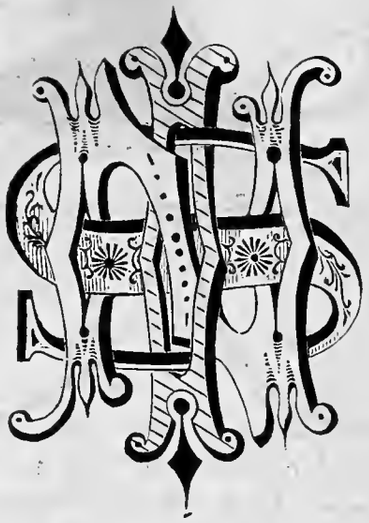
Do. silk bullion, per yard, 50c. *a* $1.
Do. worsted bullion, 4 in., 35c.
Do. worsted carpet, per yard, 8c. *a* 15c.
Frogs, 50c. *a* $1 per pair.
Glue, per lb, 25c. *a* 30c.
Hair, picked, per lb, 40c. to 65c.
Hubs, light, mortised, $1.20; unmortised, $1. Coach, mortised, $2.
Japan, per gal., $2.
Knobs, English, $1.40 *a* $1.50 per gross.
Laces, broad, silk, per yard, 60 *a* $1.25; narrow, 10c. to 16c.
Do. broad, worsted, per yard, 40c. *a* 50c.
Lamps, coach, $10 *a* $30 per pair.
Lazy backs, $9 per doz.
Leather, collar, 28c.; railing do. 26c.; soft dash, No. 1, 15c. *a* 16c.; do., No. 2, 14c.; split do., 15c. *a* 17c.; No. 1, top, 27c.; enameled top, No. 1, 27c., do., No. 2, 25c.; enameled trimming, 25c.; harness, per lb., 50c.; flap, per foot, 25c.
Moss, per bale, 8c. *a* 15c.
Mouldings, plated, per foot, ¼ in. 14c.; ⅜, 16c. *a* 20c.; ½, lead, door, per piece, 40c.
Nails, lining, silver, per paper, 7c.; ivory, per gross, 50c.
Name-plates. (See Advertisement.)
Oils, boiled, per gal., $1.25.
Paints. White lead, extra, $14.00, pure, $15.00 per 100 lbs.; Eng. pat. black, 30c.
Permanent wood-filling, $6 per gallon.
Poles, $1.25 *a* $2 each,
Pole-crabs, silver, $5 *a* $12; tips, $1.25 *a* $1.50.
Pole-eyes, (S) No. 1, $2.25; No. 2, $2.40; No. 3, $2.65; No. 4, $4.50 per pr.
Sand paper, per ream, under Nos. 2½ and under, $4.50.
Screws, gimlet, manufacturer's 30 per cent. off printed lists.
Do. ivory headed, per dozen, 50c. per gross, $5.50.
Scrims (for canvassing), 16c. *a* 22c.
Seats (carriage) $2 *a* $2.75 each.
Seat-rails, 75c. per doz.
Seat-risers, Linton's Patent, $2 per pair.
Seats, buggy, pieced rails, $1.75; solid rails, $2.50.
Shafts, $12 to $18 per doz.
Shaft-jacks (M. S. & S.'s), No. 1, $2.40; 2, $2.60; 3, $3.00.
Shaft-jacks, common, $1 *a* $1.35 per pair.
Do. tips, extra plated, per pair, 25c. *a* 50c.
Silk, curtain, per yard, $2 *a* $3.50.
Slat-irons, wrought, 4 bow, 75c. *a* 90c.; 5 bow, $1.00 per set.
Slides, ivory, white and black, per doz., $12; bone, per doz., $1.50 *a* $2.25; No. 18, $2.75 per doz.
Speaking tubes, each, $10.
Spindles, seat, per 100, $1.50 *a* $2.50.
Spring-bars, carved, per pair, $1.75.
Springs, black, 16c.; bright, 18c.; English (tempered), 21c.; Swedes (tempered), 26c.; 1¼ in., 1c. per lb. extra.
If under 34 in., 2c. per lb. additional.

☞ Two springs for a buggy weigh about 28 lbs. If both 4 plate, 34 to 40 lbs.

Spokes (Best Elizabethport), buggy, ⅞, 1 and 1⅛ in. 9½c. each; 1⅛ and 1¼ in. 9c. each; 1½ in. 10c. each. 10 off cash.

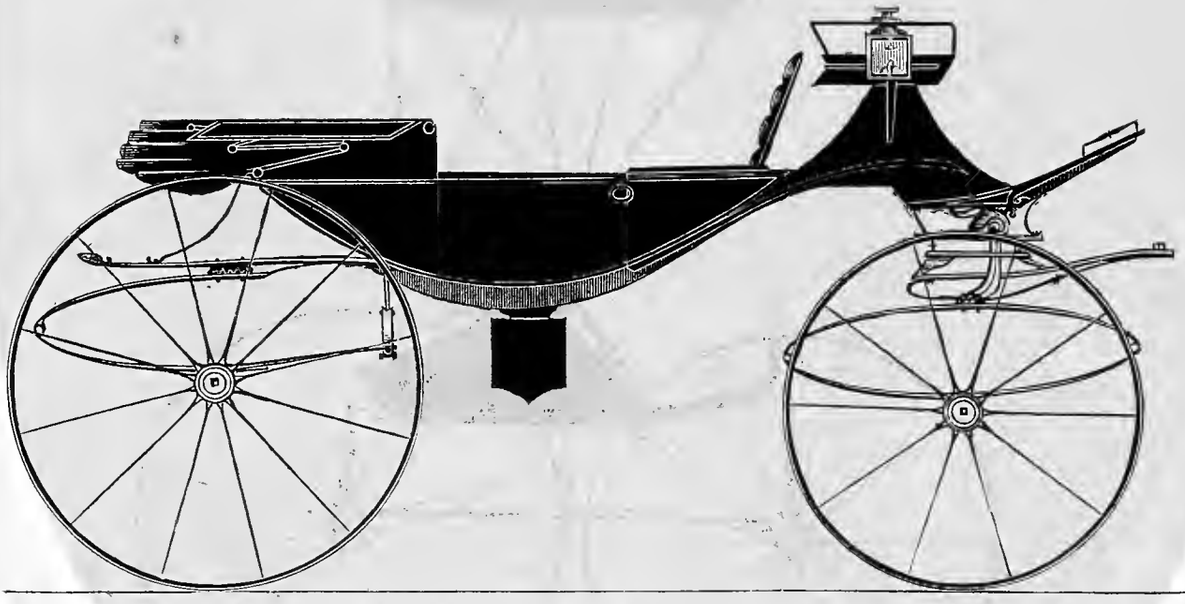
☞ For extra hickory the charges are 10c. *a* 12½c. each.

Steel, Farist Steel Co.'s Homogeneous Tire (net prices); 1 x 3–16, and 1 x 1-4, 20 cts.; 7-8 x 1-8 and 7-8 x 3-16, 23 cts.; 3-4 x 1-8, 25 cts.; 3-4 x 1-16, 28 cts.
Steel Tire—best Bessemer—net prices: 1-4 x 1 1-8, 15c.; 1-4 x 1, 15c.; 3-16 x 1 1-8, 16c.; 3-16 x 1, 16c.; 3-16 x 7-8, 17c.; 3-16 x 3-4, 17; 1-8 x 7-8, 20; 1-8 x 34; 1-16 x 3-4, 23.
Stump-joints, per dozen, $1.40 *a* $2.
Tacks, 7c. and upwards.
Tassels, holder, per pair, $1 *a* $2; inside, per dozen, $5 *a* $12; acorn trigger, per dozen, $2.25.
Thread, linen, No. 25, $1.75; 30, $1.85; 35, $1.80.
Do. stitching, No. 10, $1.00; 3, $1.20; 12, $1.35, gold.
Do. Marshall's Machine, 432, $3.25; 532, $3.75; 632, $4, gold.
Top-props, Thos. Pat, wrought, per set 80c.; capped complete, $1.50.
Do. common, per set, 40c. Do. close-plated nuts and rivets, 75*a*80c.
Tufts, common flat, worsted, per gross, 15c.
Do. heavy black corded, worsted, per gross, $1.
Do. do. do. silk, per gross, $2.c. Do. ball, $1.
Turned collars, $1.25 *a* $3 per doz.
Turpentine, pr gl., 60c
Twine, tufting, pr ball, 50c.; per lb, 85 *a* $1.
Varnishes (Amer.), crown coach-body, $5.00; nonpareil, $5.25.
Do. English, $6.25 in gold, or equivalent in currency.
Webbing, per piece, 65c.; per gross of 4 pieces, $2.40.
Wheels, $12 to 22.
Whiffle-trees, coach, turned, each, 50c.; per dozen, $4.50.
Whiffle-tree spring hooks, $4.50 per doz.
Whip-sockets, flexible rubber, $4.50 *a* $6 per dozen; hard rubber, $9 to $10 per doz.; leather imitation English, $5 per doz. common American, $3.50 *a* $4 per doz.
Window lifter plates, per dozen, $1.50.
Yokes, pole, 50c.; per doz, $5.50.
Yoke-tips, ext. plated, $1.50 pair.



ORIGINAL MONOGRAM.—S. N. I.

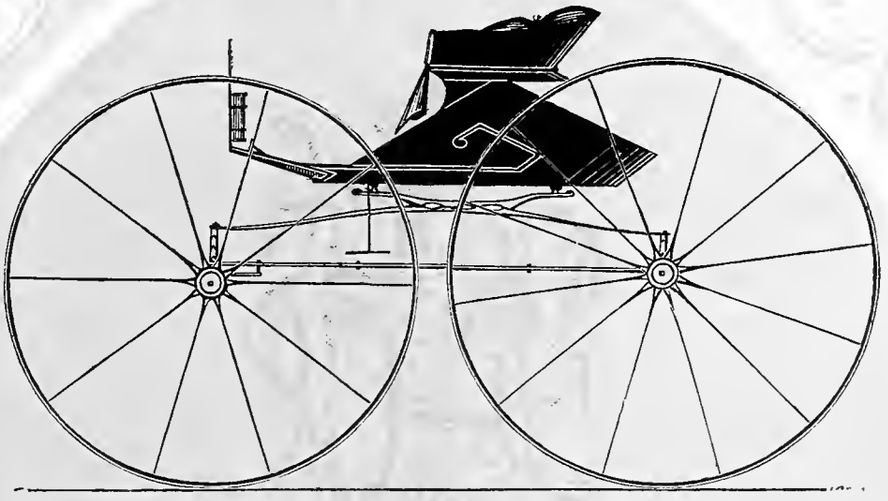
Explained on page 183.



CALECHE ON PLATFORM AND ELLIPTIC SPRINGS.—½ IN. SCALE.

Engraved expressly for the New York Coach-maker's Magazine.

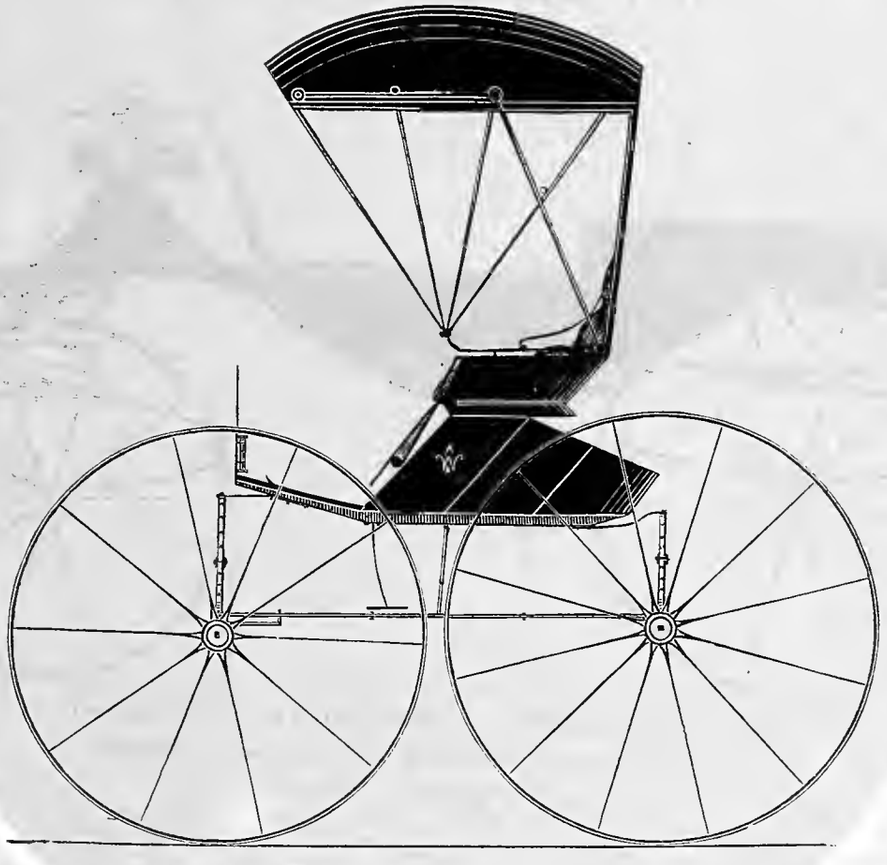
Explained on page 181.



SIDE-BAR BUGGY.—½ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine.

Explained on page 181



GRANT BUGGY.—⅝ IN. SCALE.

Designed expressly for the New York Coach-maker's Magazine

Explained on page 181.

DEVOTED TO THE LITERARY, SOCIAL, AND MECHANICAL INTERESTS OF THE CRAFT

Vol. X. NEW YORK, MAY, 1869. No. 12.

Mechanical Literature.

THE BOSS' STORY.

BY H. S. WILLIAMS.

CHAP. IV.—In which Everything Terminates Satisfactorily.

For six months I worked faithfully in my new situation, and made money quite rapidly. Then, as the summer advanced, there was but little to do outside of repairing, and as I was offered a job with steady work all the year round at a town called Piqua, I accepted it. My new situation proved very acceptable. I was working by the piece, and as they paid good wages, I got along finely. The boss was very much of a gentleman; clever and sociable; always had plenty of money, and plenty of work to do.

During the winter a gentleman named Carter ordered a trapper's buggy. He was very particular about the material used, and during its construction scarcely a day passed but what he was in the shop. As I did all the wood-work, of course, we soon became well acquainted. He was a thorough gentleman, and a man of fine mechanical taste. There was not a stick of timber in that job but what he saw, and to please him I selected the best ash, poplar, and hickory in the shop, so that when finished, fastidious as I was, I pronounced it a first-class job in every particular.

One evening, during the month of April, I was sitting in my room writing some letters, when a knock at my door announced a visitor. On opening it, I was surprised to see Mr. Carter.

"I hope I do not interrupt you," he said, accepting my invitation to a chair beside the fire.

"Not at all," I replied; "I was rather lonesome, and passing my time, as you see, by writing letters."

"I am glad to see you thus engaged," he answered, "instead of passing your evenings, as most of our young men do, at the various saloons and bar rooms. In fact, I think I can not only tell what a young man is, but what he will be, by knowing how he passes his leisure hours."

For an hour, perhaps, we conversed on various topics, for he was a fluent talker, and well read withal, when he spoke as follows:

"As you are undoubtedly aware, I live at Locust Grove, in the State of Illinois. As you have never been there, allow me to say that it is a young, but very flourishing town, with a railroad under course of construction through it. It is settled by an enterprising set of men, and can now boast some twelve hundred inhabitants; while the country around it is, perhaps, one of the richest in point of agricultural resources in the State. I own quite a good deal of property there, and, of course, feel a desire to see the place improve as fast as possible. While we have a good wagon shop, we have as yet no carriage factory; and having seen your mechanical ability tested during my visit here, and considering you steady, industrious, and trustworthy, I will make you this proposition: I will furnish you a corner lot in a suitable location, build a good, commodious shop after your own specifications, furnish you with as much lumber of all kinds as you desire, and stock to the amount of two thousand dollars to start business with, on the following terms: I will present you with a deed for the lot free of cost, and take out the actual cost of building, lumber, and stock, in carriages of such design and style of finish as I may designate, say one a month, allowing you ten per cent. above cost for them, until the whole debt is paid. Do not give me an answer now, but take time to reflect upon it. I shall leave here about the first of May, and as I shall go alone in my buggy, you can occupy a seat with me, so that the trip will cost you nothing; and if you do not like the place after we get there, of course, you can decline my offer."

Soon after he bade me good evening. I confess that his offer somewhat startled me. As he had formerly lived at Piqua, and was well known there, I knew him to be perfectly reliable, and a man of the strictest integrity. I did not sleep much that night thinking about it, and before I did fall asleep I had about made up my mind to go with him, at least, and if the place suited me, I could then accede to his proposition. The next day I saw him, and informed him of my decision.

"You are perfectly right," he replied, "to see the place before deciding definitely; so we will consider it settled that you go with me, at all events."

"On one condition," I answered, "and that is that I pay one-half the traveling expenses."

He smiled, as he replied: "Very well; be ready to start on the first Monday in May."

When I settled up I found I had nearly six hundred

dollars; for I had worked steadily and been very economical withal. The first Monday in May proved to be pleasant, and as we had had no rain for several days, the roads were in very good condition, and we started out in fine spirits. I had shipped my trunk and tools by railroad to the nearest point to Locust Grove, so that we were unincumbered with luggage, if we except two small valises that were stowed away under the seat, and as Mr. Carter had two fine, large horses, we made excellent time. In northwest Ohio we passed through a very wild country, and at times the roads were almost impassable, particularly about Celina; but as we crossed the line, and passed down the St. Joseph river to Fort Wayne, the country was charming. At Huntington we struck the Wabash river, and from thence proceeded down it until we reached Lafayette, when we took the road for Urbana. A few miles from Lafayette we struck our first prairie in its wild and unbroken state. I remember the scene as though it was but yesterday. Emerging from the wood, we ascended a bold hill, from the summit of which the great prairie stretched away before us, unbounded, apparently, save by the distant horizon.

"Stop a moment," I said; "let the horses rest while I admire this scene. So this is 'the unbroken gardens of the desert,' as the poet calls them, and here the fair young form of Spring presents her floral offerings to her God. Is it not beautiful?"

Mr. Carter smiled at my enthusiasm, as he replied: "Yes, they are beautiful, no doubt, to your eyes, because they are new to you; but when you have seen as much of them as I have; been lost on them during terrible snow storms, without any land-mark to guide you aright, and floundered through their mud and sloughs, the romance will disappear, and their beauty will lose half its charm. At this time of year they are very pretty, I admit, with green grass and gaudy flowers; but not as beautiful nor as grand as an old forest, with huge trunks and gnarled branches frowning down upon you like giants."

The roads were now in excellent condition, and we traveled our fifty miles a day with ease, until we reached Bloomington, when a day's rain caused us to travel very slowly. We crossed the Illinois river at Peoria, where we remained a day for Mr. Carter to transact some business, and in two days more we reached our destination.

I found Locust Grove, as Mr. Carter had described it, a pleasant place, with evidences of thrift on every side. As I passed along the main street I noticed a dozen new buildings going up, while out on the prairie new farms were being fenced in and put under cultivation for the first time. It was beautifully situated on the edge of a fine grove, which extended several miles to the north, while to the south the prairie stretched away far as the the eye could reach.

In a few days I became acquainted with nearly all the business men of the place; for Mr. Carter was a man of note among them, and his introduction was the "open sesame" to society. I found them very clever, very sociable, and very hospitable, as well as energetic and industrious.

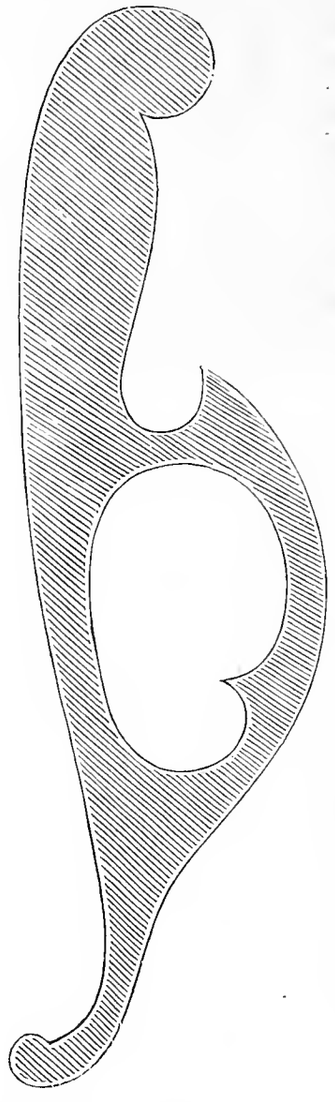
"Well," said I, that same evening, "I have concluded to accept your proposition. When can we commence operations?" "To-morrow," he replied; "make your drawings and specifications, take them to Mr. Bevel, the carpenter; let him make out a bill for the lumber, and by the time we can get it on the ground he will be done with the store-house he is now at work on, when he will go right at the shop. At the same time make out your bill for hickory and ash, and I will take it up to my mill, four miles north of this, and have it sawed immediately. In the meantime, I will order a lot of seasoned lumber to begin with, from St. Louis, at the same time I order your stock of goods.

In just six weeks from that time the shop was finished; in another week all our stock arrived, and then we went to work with over one thousand dollars worth of new work ordered ahead. That looked like business, and I felt like it, for I could see no rocks nor shoals ahead to get shipwrecked on. The six hundred dollars I had run the shop until it began to be a paying institution, and from that day to this fortune has smiled upon me, and I have never wanted for work nor money. In two years' time I paid Mr. Carter every dollar I owed him, and now, at the end of three and a half years, I find I have a balance of four thousand dollars in bank. Not bad, after all my ups and downs, is it?"

"And you never went back to Eaton?" I asked.

"Ah, yes! I had nearly forgotten that. I did go back there just two years ago this very day, and—but it is nearly dinner time; so let us go down to the house, and I will introduce you to Mr. Carter, who dines with me to-day; also to my wife, Mrs. Maggie Maples, *nee* Weston."

And thus ended my Boss' Story.



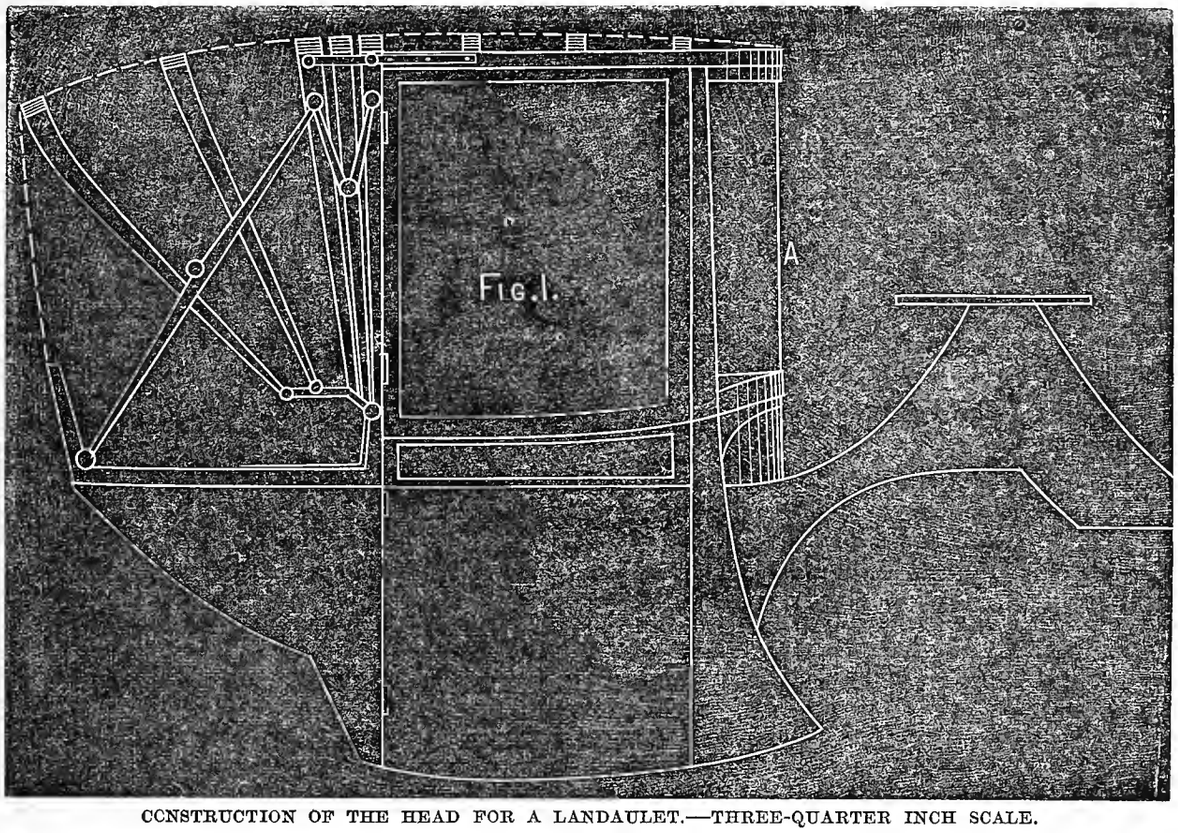
SWEEPS FOR SCALE DRAFTING.

SWEEPS FOR SCALE DRAFTING.—III.

WE this month continue our series of sweeps for the use of those who wish to engage in the business of drawing carriages on a small scale. Our series, which will be continued in the next volume, will enable the amateur artist to supply himself with the requisite sweeps at a nominal expense, and thereby save unnecessary outlays of money, the workman making them out of rosewood veneer, which may be had at any cabinet-maker's shop.

As we have before said, copy our design by laying over it a piece of transparent paper and tracing the outlines thereon with a lead pencil. This should afterwards be cut out with a sharp pen-knife, laid on the veneer and marked thereon with the same pencil. You will then have a design in outline to be cut out with the pen-knife, again care being

taken to file the edges of the sweeps true, and a little rounding, so as to make it work well afterwards when running your pen or pencil along the edges.



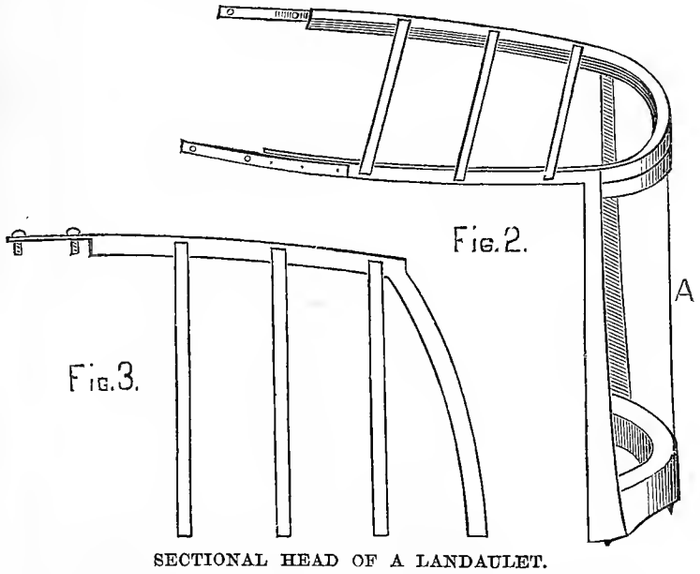
CONSTRUCTION OF THE HEAD FOR A LANDAULET.—THREE-QUARTER INCH SCALE.

GEOMETRY OF CARRIAGE ARCHITECTURE.

BY A PRACTICAL COACH-MAKER.

PART THIRTIETH.—HEAD FOR LANDAULET.

THE diagrams we publish in connection with this subject are intended for the guidance of the novice in constructing the heads or tops of the Landaulet (pronounced Lan-do-lay), a vehicle as yet very little known in this country, but destined to be more popular, hereafter, among us.



SECTIONAL HEAD OF A LANDAULET.

The above engraving (Fig. 1) represents the frame of the Landaulet completed for covering with leather. The front portion at A is constructed in such a manner that it may be lifted off and separated from the body when the head is thrown back. This, when in use, is secured to the front bow by thumb-screws, as in the ordinary calèche top.

In figure 2, at A, is shown a plan of the roof and front portion of the Landaulet head, which should be made in the best manner and held firmly together with nice corner plates made of wrought iron. The upper part of the side door should be furnished with slip hinges, like those for a calèche, so as to be easily disconnected when the front is removed.

Figure 3 represents a bird's-eye view of a section of the roof curves and top rails. The whole will be found very useful in building this description of vehicle, and we believe this is the first time it has ever been given, in any publication, to the public.

Home Circle.

TOO LATE.—A SKETCH.

BY CARRIE M. WHITNEY.

'Tis night, and o'er the city
Hang heavy, threatening clouds,
And snowflakes, white and spectral,
Drape everything in shrouds.
The gaslights glimmer faintly
Through thickly falling snow,
And, seeking home and shelter,
Crowds hurry to and fro.

Far up among the chimneys,
Up, up the creaking stairs,
Within a garret dingy
A tallow candle flares;
Revealing desolation,
And want, and cold, and death,
And a pale, wasted woman
Just gasping out her breath.

Some half-burnt chips are lying
Upon the broken hearth;
A brown loaf on the table
Her all of food on earth.
A girl of wondrous beauty
Is kneeling by the bed;
O, Saviour! save my mother,
In agony she plead.

Hush, there's an angel whisper,
A quickly answered prayer,
And music, all seraphic,
Seems pulsing through the air.
A look of peace is haloed
Upon that dying brow;
A smile, a sigh—that mother
Is with the angels now.

Up, up the stairs, a footstep
Echoes a manly tread;
And, striding o'er the threshold,
A soldier nears the bed.
A groan, a cry, O, sister!
What horrid dream is this,
Our darling mother dying
In this poor wretchedness?

Too late! too late! and shrieking
She fell upon the floor;
And wailing winds came creeping
Through the old, latchless door.
Too late! too late! O, brother!
Of want our mother died,
But in the Heavenly mansions
Her wants will be supplied.

Too late! too late! the brother
Repeated o'er and o'er,
The wealth I've toiled to earn her
Can never aid her more.
The morning broke—the city
Awoke to life again,
But that dear, sainted mother
Will feel no hunger pain.

WINTER RAMBLINGS IN KENTUCKY.

BY PORTE PENCIL.

(*Continued from page* 153.)

LEST the reader should anticipate too much, it may be well to remark at the outset, that my travels have been confined to a limited section of country. It is for this reason that I have adopted the term *rambling*, which signifies straying, &c. I do not intend he shall infer, however, that *travels* are any the less interesting or adventuresome for being *rambling*.

The reader must now suppose the rambler dropped down at Henderson, Kentucky. I cast my eye about the magical place for a few moments. I said it was *magical*, although it is one of the oldest places on the Ohio river; but there *is a magic* about its beauty, and its wealth, containing some sixteen large tobacco factories, the smallest of which are larger than "Libby Prison." Tobacco and corn are the staples which command almost the entire attention of this community. The scientific in geology have pointed out this as the center of great mineral wealth—where now flows from the depth of seventeen hundred feet to the surface one of the largest streams of salt water to be found in the United States, the strength of which is equal if not superior to any in the great Kanawha valley. Various minerals and immense beds of coal of the finest quality, for manufacturing purposes, have been found by boring. The Evansville, Henderson and Nashville Railroad has its northern terminus on the Ohio river at this place, opening a southern market for grain and manufactures, besides having two fine regular packet steamers running to Louisville, and three to Cairo, also two daily packets to Evansville—only ten miles distant—forming connection with the railroads North, East, and West.

As I said before, after casting my eye about, I stepped into one of the hotels, and deliberately hanging my overcoat against the wall, I partook of a cup of coffee, a French roll, and a small piece of bacon, for which the landlord modestly took from me an even dollar greenback. A negro was polite enough to assist on my overcoat, and charged for that act of supererogation precisely one *bit*—twelve cents and a half, still adhering to the amount of the old currency, but that not being at this time in general use, they accept in lieu thereof fifteen cents in scrip. As I passed out I was pursued by about a dozen negroes, who completely surrounded me, crying out incessantly: "Carry your valise, sir?" "Carry your valise, sir?" Fortunately escaping from the precincts of the hotel, I rambled up Main street in search of Mr. Delker's carriage shop, finding which, we duly introduce ourselves, and are soon intimately acquainted, after which we are escorted to his residence, and enjoy the hospitality of a Kentucky home, until next morning, when we are found rambling up street in search of a stage office. Precisely two hours after, four horses were dragging a dark stage containing an elderly gentleman, with a buxom daughter, and myself, through mud, six inches deep, in the direction of Green river. I was not favorably impressed with the turnpike over which we were traveling.

The road from Henderson to Owensboro, with the exception of the Black swamp in Ohio, is, perhaps, at this season of the year, the most horrible stage road in the United States. I was, about midnight, set down at Spottsville, a village consisting of a tavern house, cider mill, and about six hundred inhabitants, about twenty miles from Henderson. We were twelve hours on the road, and endured many upsets, turnovers, and were frequently under the necessity of prying the stage out of the mud with fence rails. Had it not been for the singing propensities of our fair Kentucky passenger, we would have had nothing to soften the asperities of our way, or alleviate the distress of such a journey. She had been recently converted to the Methodist faith—her father being an elder in the church. Hence, it may be inferred, she was not wanting in zeal. Accompanied by her father, with his deep bass, the effect in that dark and uneasy stage, on that terrible road, was, indeed, not bad.

From Spottsville to Mason's Ferry, four miles, I rode in a one-horse wagon. The mud on this piece of road was not so deep—it did not exceed generally four inches. Mason's Ferry is surrounded by hills and woods, quite snug in winter, and in dry weather I should think not unpleasant. It has several hard fisted inhabitants, and the soil is most exuberant. From this place it was my purpose to proceed on to Owensboro, but, on account of the difficult roads, and the scarcity of horses, (mules and oxen been used instead,) I was unable to procure a conveyance of any kind, on any practicable conditions. Ac-

cordingly, I took my valise in hand, and set out on foot. The afternoon of that day was long, warm, and tedious. Near nightfall, I discovered a sign-post, bearing the title of "The Traveler's Home." I stopped in, and here I was presently informed I had accomplished four miles on foot. Under this discouragement, I was induced to remain over night. I know not why I did not accomplish more, unless it be that I rested too frequently, and too long by the wayside. However, if my fatigue was not a sufficient incentive for stopping at this place, I was entirely persuaded, when the landlady, affectionately "telled" me that they were to have a "parring bee" that night; she "reckoned" there would be "heaps" of young men and gals there; "and," continued she enthusiastically, "they'll come ten miles for't, I know, and Dan —— is going to fetch his fiddle!"

The house was built of hewn timber, and was one story high. In the centre was a huge stone chimney, and a partition of boards on each side, forming a connected partition through the centre of the house, making two very good sized apartments. One of these was for the "women folks," and the other was for the bar room. At one side of the bar room a board partition had been run across, and two small bed rooms had been formed therein, for the accommodation of travelers; a long bench, made of slab, stood before the capacious fire place; sundry three legged stools, an old fashioned cherry table, and a white pine counter for a bar, constituted the sole furniture of the bar room. Behind that counter stood a barrel, marked "Old Rose Bud Bourbon," on which stood a pitcher and a glass.

(*To be continued.*)

Pen Illustrations of the Drafts.

CALÈCHE ON PLATFORM AND ELLIPTIC SPRINGS.

Illustrated on Plate XLV.

For this design we are indebted to Messrs. James B. Cone & Co., of 684 Broadway, N. Y. The sweeps to the body are such, that the vehicle when finished must appear extremely light, and yet afford sufficient leg-room to be comfortable. As no one will undertake to build a body of this kind, unskilled in the art, we do not think it necessary to give details for the construction, further than to say that the rocker plate should be made of the best wrought iron, quite heavy, and be well secured with screws. Wheels 3 feet 3 inches and 4 feet 11 inches; hubs $4\frac{1}{2}$x$6\frac{1}{2}$ inches; spokes 1 inch; rims 1 by $\frac{3}{4}$ inches, The price of this calèche is about $1,000.

SIDE-BAR BUGGY.

Illustrated on Plate XLVI.

We present this to our readers as something very nice in the line of a light road buggy. The molding on the side should be raised and painted of a different color from that of the panel, to bring it out in contrast. Wheels 4 feet and 4 feet 2 inches high; hubs $3\frac{1}{4}$ by 6 inches; spokes $\frac{3}{4}$ inch; rims $\frac{7}{8}$ of an inch. Price $325.

GRANT BUGGY.

Illustrated on Plate XLVI.

Our readers have in this design a very handsome style of buggy, suited to all portions of the country where taste is appreciated. In making this body the workman will do well to get the rocker and bottom side out of the solid. The panel of course should be whitewood deal, bent, as shown in the Hallowell Phaeton, on page 167, making but a single joint at the centre of the back. The side moldings—half rounded—are braded on and glued. The best thing we have ever found for the sides and back of seats is wild cherry, five-eighths or three quarters of an inch in thickness. Some useful instructions in forming round corners will be found on page 99 of this volume. Wheels 3 feet 11 inches, and 4 feet 1 inch high; spokes $\frac{7}{8}$ or 1 inch; hubs $3\frac{3}{4}$ by 6 inches; rims 1 inch. Price $450 @ $475.

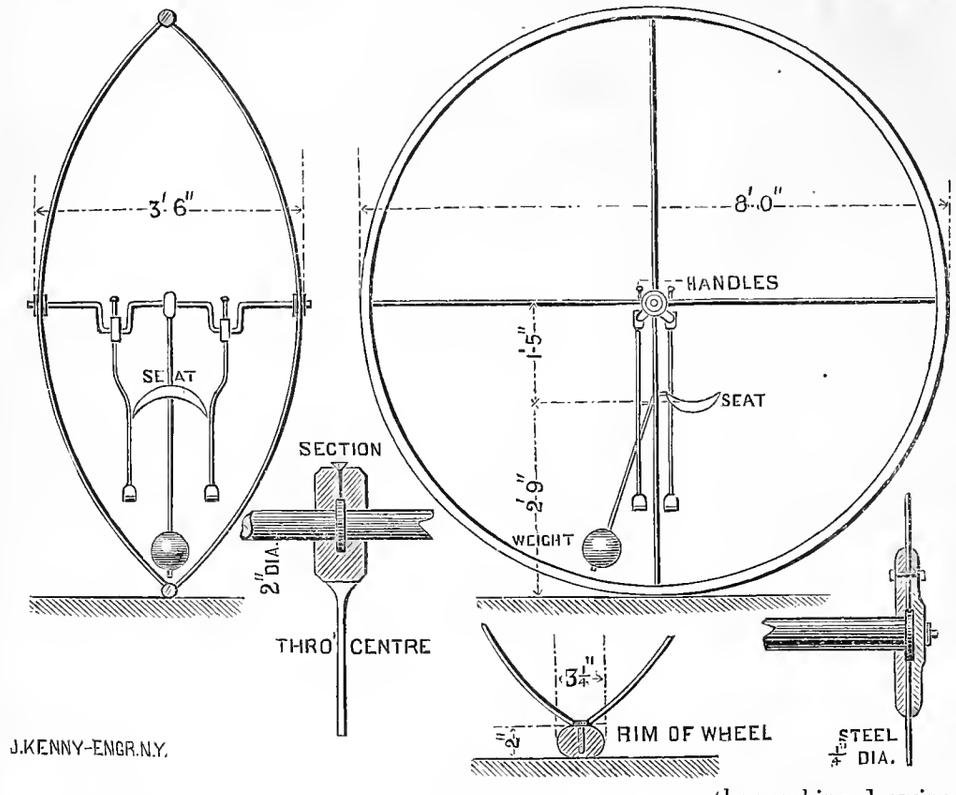
Sparks from the Anvil.

SNOOK ON WAGON TIRES.

A correspondent of the *Rural New Yorker*, over the signature of L. D. Snook, says: Heavy laden wagons with narrow tire, when drawn over land under tillage (in gathering crops, hauling stone, fertilizers, &c., the wagon is heavy laden,) leave a rut or wagon track, and if the field be newly seeded to grass, destroy a great portion of that pressed under the wheels, by bruising, mangling or compressing the roots and branches of the small and tender plants. The case is exactly the same when the soil is moist, though the land over which the load is drawn has been long seeded to grass. The highway exhibits specimens of the folly of using narrow tire for heavy draught wagons. In portions of the country it is unsafe for light vehicles to travel on highways, the ruts are so deep and dangerous. On the contrary, if wagons with wide tire were used, the deep, unsightly ruts across tilled fields would not be seen, nor would our highways be so defaced, though equally heavy loads were drawn and the draught would be much lighter.

These and other facts will readily suggest to the thinking man the superiority of wide tire over narrow tire for farm and draught wagons. The only debatable point on this subject is, what should be the increased width of the tire? In my opinion, based on observation of wagons heavy laden, with various widths of tire, the width of tire for farm purposes should be at least three and a-half inches; four inches would be none too wide. The first cost would be a few dollars more, but this is more than compensated by the easiness of draught, durability and non-rutting of the farm and highway. The same reason that we use wide tire on the drawing wheels of our reaping machines, will justly apply in this case.

Steel Tires.—On the second page of the cover to this number will be found advertised two different articles of steel tire, both excellent.



THE ONE WHEEL VELOCIPEDE.*

The whole world has evidently gone mad on velocipedes. After letting them rest in peace and lumber rooms for a century, some smart young fellow in Yankee land awoke one morning, and brushed the cobwebs away from the rusty old iron, and started like a fury down the street. The result: "Walking is on its last legs," say the New York wags. Races are being rolled. Men and boys are whizzing here, there, everywhere at the speed of twelve miles per hour. Inventors are improving the machine. "Manufacturers are making them wholesale." Rip Van Winkle could not have created a greater sensation after his long sleep. Perhaps a couple of years may now make as great a change in our means of communication as the railways have effected. There is such an universal cry for cheap and speedy traveling. It has become a necessity. There are so many brains, educated to this end, now toiling and working, that something must come of it. The more we open the book of nature, and see the powers that are working so silently, the better we can understand the almost infinite power which is given to man's intellect to govern the world, and the mighty results which may follow. Our railway system has not solved the problem: it is too dear, too restricted, to suit the wants of the age. The more we attain the more we desire; we have conquered so much, and done such wonderful things, even in our own days, that we cannot rest satisfied. Once a path through the wood was good enough; the path became a lane, the lane was improved into a road, the road led to the canal, which changed into the railway and the express train. Then we have stopped for a moment to draw breath before we take wings and fly, as some say, or go up in a balloon. But I like old mother earth, and do not mean to leave the world yet awhile. Time enough for winged spirits when we have to go.

We might do a good deal with the engine. Mind, I do not call it steam, for we should do without water and coal. The immense dead weight required to be moved in our locomotive engines has, I fancy, a great deal to do with the very bad return they make in power and cost. If we could manage an explosive material which would be cheap and light — gun-cotton or nitro-glycerine; suppose we could put a few drops of the latter into the cylinder and explode them by electricity, and thus by a continual succession of explosions, which would keep the piston in motion. Then we have electricity as a motive power, but at present it is too dear to be used; but I hope soon to see important improvements effected. I wish to call your attention to a new velocipede which I am getting made, and which I hope will possess great advantages over those now in use. I send you the working drawings, which are exceedingly simple, and need little description. There is only one wheel, which is 8ft. in diameter, with a heavy rim of wrought iron, which will act as a fly-wheel, like the rim of the Abyssinian top, and steady the motion. The axle of this wheel is 3 ft. 6 in. long, with two heavy bosses at each end, which will also act like the balance-pole of the rope-dancer, and prevent it from falling. The weight is also well under the axle, and hangs only a few inches from the ground. With these precautions I consider it far safer and easier to balance than the two wheel French velocipede. There are four steel spokes from each side slightly curved so as to act as springs to make the wheel run smooth, and also to give room in the centre for the driver.

The axle is round, with two cranks 5in. deep, with stirrup and handle attached to each; in the centre there is a heavy weight hanging freely from the axle, to within a few inches of the gronnd. On a bracket attached to this weight the driver sits, with his feet in the stirrups and his hand on the handles. There is a small bar with a ball-and-socket joint, which may sometimes be used to keep the wheel upright, and can be attached to the spokes by a spring when not used. Suppose we want to start: take our seat in the saddle, adjust the stirrups, take in the prop, and with our feet on the ground give the wheel a start; once going, it is very easy work, and, of course, the faster we go the safer and smoother becomes the motion; turning is easily managed by leaning a little on one side, and moving the handles as a skater on the outside edge. I think the whole thing is so simple, so cheap, so powerful and speedy, so little chance of getting out of order, and so easy to repair, and best of all, so safe, as you cannot be hurt even if it falls, as the axle strikes the ground and you are safe as in a wire cage. You cannot be much splashed, which is a great fault with the French. My wheel is 8ft. in diameter, therefore one turn is equal to 25ft., or more than eight yards, with less fatigue than

* From the London Engineer.

one step. Fifteen miles an hour would be only fifty-three revolutions per minute. But the French velocipede wheel cannot be made larger, as the crank is in the centre, and has to suit the length of the leg. The hands are not used, which is an advantage in mine, as you can use them or not, as you wish. The small wheels have to revolve eighty-five times per minute to make twelve miles an hour, which is the greatest speed they can accomplish. My machine will soon be ready, and I intend to make a little splash in the Dublin streets.

Paint Room.

OBSERVATIONS ON STRIPING.

Nothing sets off a carriage so well as striping, judiciously applied. The great mistake among us, is, we generally overdo the business and crowd on too much, in some instances covering the original so full, that it is with difficulty the color can be determined. The French, who give us our fashions in almost everything else, seem to have but little influence in this respect. They, if we take the patterns sent us as a standard, draw but one stripe on the side of a spoke this year, in black, and that full half an inch wide, on a brown ground. This, in the language of our country, would be pronounced very tame; too plain for our idea of the beautiful. To these introductory remarks we shall add a few observations for the benefit of our country readers.

We notice that some of the lighter jobs in this city, with a ground color of Quaker green for the carriage parts, have a very fine line of red through the center, outside of which, at about an eighth of an inch distant, on each side, a trifle larger stripe in gold appears. This, when well done, makes a very pretty job. The body, supposing it a black color, may have a small stripe near the bottom edge of the panel, and around the seat and vallance of the same red color. This arrangement shows off to good advantage, and, while it has a rich finish, does not look repulsively gaudy like some others.

Another plan followed is to have a subdued yellow ground work, on which is drawn a broad black stripe, say three-eighths of an inch wide, and through the middle of of this again a very fine line of red. We have seen some buggies striped all over with wide red stripes, so as to make them look, a little distance off, as though they had a ground entirely red. This we consider in bad taste. No ground-work should be so effectually covered with a different color as to obscure the original. We may have something more to offer on this subject next month.

At this late day, we scarcely need remind our readers of the superiority of tube colors over all others for striping. It is true, they cost a little more at first then when mixed and ground in the shop, but will prove much cheaper in the end, as generally they flow smoother and look richer when laid on.

CHROME-YELLOW PAINT.

The compounds of the metal chromium are among the most useful and most common of all the substances used in the manufacture of paints. The colors made from it range from green, through all shades of yellow and orange, to red, and are all, with hardly an exception, bright and beautiful. For that reason they have superseded many paints formerly used—such, for instance, as orpiment, massicot, and others.

Chromium was only discovered at the end of the last century, and the name given to it—derived from the Greek—was chosen on account of the many colors that can be produced from it. It was a mere curiosity at first, until, in Maryland, extensive deposits were found in combination with iron ore. This compound is analogous to magnetic iron ore, which consists of sesquioxide of iron and oxide of iron. In the same manner the chrome ore found consists of a combination of sesquioxide of chromium and oxide of iron. This substance is that from which all preparations of chromium are derived. It is converted into a chromate of potassa in the following manner:

The ore, having been reduced to powder, is calcined with nitre, or with carbonate of potassa, quicklime being sometimes added, and heated for a long time in a reverberatory furnace. The product is treated with water, and a yellow solution obtained, which, upon evaporation, deposits lemon-yellow crystals of chromate of potassa. These crystals are a combination of potassa with an acid formed by the chromium, and called chromic acid. This acid is similar to sulphuric acid, and it forms, with the potassa, the above named chromate of potassa. When a small quantity of sulphuric acid is added to this salt, half the potassa is removed, combining with this acid, and the remaining half of the potassa combines with double the quantity of chromic acid, and thus is the so-called neutral chromate of potassa coverted into a bichromate of potassa. Of this salt immense quantities are manufactured for use in the arts. It forms beautiful red crystals. Dissolved in water, it forms, according to the amount dissolved, yellow, orange, or red solutions. One part will saturate ten parts of water. The solution has acid properties, and is quite poisonous.

In order, now, to make chrome-yellow, all that is necessary to be done is to make a solution of some lead salt, as, for instance, the acetate of lead, or, in other words, the sugar of lead, or the nitrate of lead. When such a solution is mixed with a solution of the chromate or bichromate of potassa, a yellow or orange precipitate of chromate of lead will be formed, of which the shade may be regulated by observing certain particulars which will be hereafter explained. The precipitate, dried and boxed up for the trade, is manufactured in this country upon a very large scale, and is known in Europe as American chrome-yellow. Unlike many other articles, it may also be manufactured to advantage on quite a small scale.

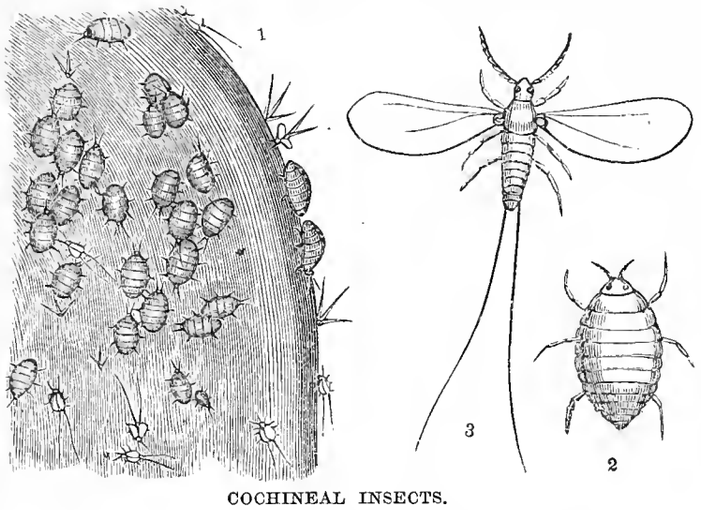
ORIGINAL MONOGRAMS.

Illustrated on Plate XLV.

The monogram found on Plate XLV, has been contributed by our friend, J. S. Leggett, of Amenia, whose ingenuity in that line has often been displayed in our pages. The letters S. N. l. are here combined very successfully, and if for no other, will answer the purpose of a lesson for young beginners in the now very important art of providing monograms for the panels of carriages. Some remarks on coloring monograms will be found on page 170 of this volume. These may be studied to advantage by those not yet initiated into "the mysteries" of artistic painting.

COCHINEAL.

FORMERLY, a morocco known as cochineal was much used in trimming carriages. This was of a beautiful red color. It received its name from an insect, the body of which supplied the coloring matter of the leather. The insect, a species of *Coceus*, is found on the *Nopal* or Prickly Pear, growing spontaneously in southern climates, but it is also cultivated for the express purpose of raising the insect, and producing the cochineal of commerce.



COCHINEAL INSECTS.

These insects, as may be observed in our engraving, have very much the appearance of plant lice. The females are wingless, and fixing themselves on the pear, a section of which is seen in the engraving, from which they obtain their food, never move. The males, on the contrary, have wings which they use to good advantage in moving from place to place. Fig. 1 represents a number of the female insect feeding upon a portion of the pear. Fig. 2 shows an enlarged engraving of the female, and Fig. 3 an enlarged one of the male insect. The female produces numerous ova which are attached to the under side of the body and are hatched after the mother dies, when the young insect immediately attaches itself to the plant to complete its growth.

In securing the coloring matter, the laborer brushes the insect from the plant, killing them by thousands afterwards, either by plunging them in boiling water, or dry heat. When dead and well dried, the residue forms what is termed cochineal and constitutes a powerful dye. The best quality has a purplish gray color, the other varieties being of less value. About 70,000 of the dried insects weigh a pound. When the prepared article is broken the grains present a dull purplish color, which is imparted to water when it is soaked therein. By the use of mordants, cochineal yields some of the most brilliant shades. The richer scarlets are produced by cochineal with the tin mordant (chloride or muriate of tin). Crimson is produced by using alum. Carmine is obtained by adding alum to an infusion of cochineal, the deposit afterwards being dried. This matter is used by the currier in dyeing his leather and furnishes the most rich and brilliant article known in the tanner's art.

OUR TRIMMING DEPARTMENT.—We intend, should our arrangements be carried out as expected, to make this portion of our next volume more interesting than we have heretofore done.

Editor's Work-bench.

TO OUR SUBSCRIBERS AND FRIENDS.

WITH this number we furnish a title-page and index to the tenth volume of THE NEW YORK COACH-MAKER'S MAGAZINE, completing the work thus far in uniform size and appearance. In accordance with our annual custom, we take the present opportunity to remind our subscribers that we shall make out a new list of names, and retain only such as have given us a standing order to "continue the Magazine right along, and send in their bills with the first number of the volume." All others will be expected to renew by sending us Five Dollars in a postal order, draft or registered letter. For such only will we be responsible. Those who enclose money by mail do so at their own risk. Those friends who approve of our Magazine, and wish to continue their patronage, are informed that the first number of volume eleven will be ready about the tenth of May.

We had almost decided to make some changes in the form of our volume, but on consulting friends whose judgment we respect, they advise us to continue on as we began, and make all of uniform size, as being more satisfactory to the craft. It will, therefore, only be necessary for us to say that, during the coming year, we intend to strive and make this work as useful and interesting as possible, for which purpose we have put forth extra exertions and secured additional help, outside of this office. If strict attention to business, laborious study, and careful watchfulness over the vital interests of our readers is deserving of reward, we think we are entitled to your continued patronage. Please bear in mind that we have, on all questions inimical to your interests, stood up in your defence, and thereby saved you, some of you at least, large sums of money. The same independent, outspoken course we have always pursued will still continue, but while we maintain our own opinions on the subject of Unionism, we intend to give our late opponents a chance to ventilate their ideas of the trustworthiness of those who, although the most obnoxious to you formerly, are now in sheep's garb professedly your warmest friends. If you can trust such as have betrayed those who have nursed them into life, you must not blame us, should they prove false to you, when they find it to their interests.

As intimated elsewhere, Mr. H. S. Williams is expected to give interesting sketches of mechanical life, in the next volume, under the heading of the Adventures of Three Jours. Porte Pencil's Rambles in Kentucky will also be continued. Notwithstanding the silly sneers of our enemies, we intend to continue our historical articles, which have proved so acceptable to our readers, under the caption of "Our Grecian Museum," whenever we can find

space for their insertion. The mechanical departments, we intend shall receive additional attention and be made not only attractive for the moment, but mechanically useful for future reference, in the bound volume.

And now, in closing we would remind our friends that our club rates are very low, lower than circumstances warrant, and should they wish to avail themselves of the benefit, they can do so by canvassing their shops. The terms will be found on the cover to this number. To encourage such as will send us two names with nine dollars, we offer as a premium chart number six published by us; for three names with thirteen dollars, the chart elsewhere described, with velocipedes, &c. Hoping that our friends will exert themselves to largely increase our subscription list, we close this article.

CHRONICLES OF A GENIUS, ILLUSTRATED.

The Editor of Scott & Day's "Prices Current of Carriage Materials," has a servant in his employ, who has the assurance to call himself "Genius, the Scribe." This *Genius*, whom no one would take to be such that reads his "Chronicles," or gets a sight of his "seedy" looking exterior, *delivers* himself of the following *stuff*, among other things:

"And at this time the great men among them did assemble in council at the City of *two Cins*, which is Porkopolis.

And a few of them did whisper among themselves, saying: "our scribe is false, come, let us kill him." But, they did not speak out, for fear the others would not agree with them. But, when they had got to their homes, the serpent, whose *tail* Ezra had get hold of, began to show its *head*." "*Chronicles*," Chapter I., vs. 11, 12.

Probably but few readers of the *muddy* chapters of this modern "Genius," will fully understand the passages we have quoted. This, fortunately, we are able to explain by the following communication of a friend, who is ready to prove it under oath.

Mr. Editor: The following conversation was overheard in a "mummy" chamber, located in the city of two Cins, which is Porkopolis," in the month of December, 1867. Mummy No. 2.

President H.—"How was it that No. 10 [located in Cincinnati] hesitated so long in coming into the Union?"

"*Chronicles*" *V.*—"Why, don't you know how that was?"

President H.—"I do not."

Chronicles V.—"Then I will tell you. On the night that a reply was to be sent to the Secretary of the I. U., I happened to be there, and heard the letter read, signed, "Isaac"———. I immediately asked for information as to who Isaac was; but no one could tell me, except that a man of the name was Secretary of the I. U. I then told them that *I* knew one Isaac, who was in business with me in Connersville, Ind., and if he was the same man, I should certainly oppose going into any Union where he is Secretary, as I have no confidence in him whatever. This is the reason why No. 10 hesitated so long before she joined the I. U."

President H.—"I am somewhat surprised at the facts you allude to."

Chronicles V.—"I am not knowing the man. After that I went to the convention in New Haven, but held scarcely any *intercourse* with him. Then he asked me to call on him in P———. I did so, and when I saw the poverty that encompassed him, *I buried the hatchet.* I tell *you* this to put you on your guard, as he is not to be trusted."

President H.—"Can this be possible?"

Chronicles V.—"Nevertheless, I state to you nothing but facts!"

The foregoing statement from "Mummy No. 2," needs no additional comment from us; but we think that our *quasi* "Genius, the Scribe," will be obliged to confess that "Ezra" has now not only "got hold of the *tail*," of "the Serpent," but has *bruised* his head, likewise.

In closing this article, we would *gratuitously* furnish a supplementary verse to the Second Chapter of this Chronicler, to be used as the heading for another.

And Lo! *this* "Serpent" *is now* one of "the Friends of Isaac."

HOW THE THING OPERATES.

About a year ago politics prevailed, and a law making eight hours a day's work, was passed. This had the effect of rendering employers and employees all dissatisfied, the former imagining that our law-givers had no right to legislate for them, and the latter dissatisfied because they have thus far as a general rule been unable to get full wages for short time, according to their wishes. Labor claims "that the first and great fallacy which will soon he exploded by employing a few thousand laborers and mechanics on the eight hour system, will be that which is still taught by many claiming to understand political economy, and thoughtlessly accepted by the masses generally, that if the eight hour system prevails there must of necessity and in justice to employers, occur *a corresponding reduction of wages!* as all attempts by Government agents to secure labor at less than the so called ten hours rates will prove, in the long run, an utter failure." To meet this, Labor has

Resolved, That, while no one can tell exactly what proportion of our real earnings we now receive, that we know they are far short of eight-tenths, and probably of six-tenths; and that, if the eight-hour system should reduce production one-fifth—which it will not—we shall still earn far more than we now receive, after making the most liberal allowance for every legitimate expense; and those who still insist upon our giving ten hours' labor for seven or six or five hours' pay, are bound in honor to say whether, as the hours of labor grow more and more valuable and productive through labor-saving inventions, there will ever be a time when this selfish and swindling system will come to an end and our hours of labor be reduced.

This kind of reasoning has produced its legitimate fruit, and been met in a spirit which must prolong the strife betwixt capital and labor for sometime longer. At a meeting recently held in this city by the Master Mason's Association, it was

Resolved, That at present we deem it inexpedient to reduce the number of working hours constituting a day's work, the consequences of such reduction we consider would be fatal to business generally, enhance the value of all commodities of life, and fall heaviest upon the mechanic and workmen seeking such reduction.

Resolved, That the system of Trade Unions is uncalled for on this continent, and the principles by which they are governed are anti-republican, demoralising, and damaging to the skillful, the industrious, and energetic, depriving them of the opportunity of earning all they are worth, and encouraging the unskillful and idle, whose only merit oftimes consists in being a member of a Union in good standing. We deny the assertion of the Unions that they have a tendency to improve, and combine those who are called skilled in their trade; on the contrary, the Unions prevent the apprentices and their members from becoming experts as mechanics, by dividing one and the same trade into three or four distinct branches.

Resolved, That we will pay the industrious a full remnneration for their services, whether they be members of a Union or not, and will not submit to any arbitrary rules or dictations as to the manner in which we, as employers, shall conduct our business, or whom we shall employ.

Resolved, That we will employ as many apprentices as our business may warrant, and make it our duty to have them well provided for, serve a regular apprenticeship whenever the master is unable to retain them by reason of retirement from business, death, or otherwise.

Resolved, That we will sign no contract limiting the time for completion of the work without adding the following clause, as passed upon by the Master Masons' Association, viz., the time lost by strikes caused by any unreasonable demands of the trade unions, shall be added to the time given to finish the work.

This last clause, if generally adopted, must prove fatal to the advocates of the eight hour law among the masons of New York, and probably postpone the contemplated strike this spring.

We are not advocates for combinations, either among capitalists or laborers, as they tend to inflate prices above those of the market, producing the same result as monopolists, bringing about, by their action, an unhealthy state of affairs. Admitting for instance that labor is a commodity like any other, and subject to the same laws of trade, is that any reason why it should combine and demand for itself more than its proper market value, an inflated price compared with cotemporary prices, or compared with that obtained on individual merit, singly? We think not. The question, however, is one worthy of discussion, and could the proper parties be found to enter upon it in a dispassionate and candid manner, we should be happy to open our columns to the subject.

BATTLE OF THE VELOCIPEDES.

As we anticipated, a warmly contested battle has now commenced between two rival claimants to the original patents, "covering the primary elements in all velocipedes," now in use. In other words, Stephen W. Smith, of 90 William street, New York, has sued Calvin Witty, in the United States Circuit Court of this District, for infringements on the several patents obtained by Smith in 1862, 1863 and 1864, as mentioned in our last issue, and also threatens to at once commence suits against all other infringers, and promises to defend all who take licenses from him.

With characteristic spirit Witty cautions all persons "against buying, selling or using any velocipedes, containing two wheels, so that the feet give motion to the front wheel, unless the same is properly stamped, "Patented, November 30th, 1866," by authorized persons. Persons *making*, *using*, *selling*, *buying* or *importing* from Paris, or elsewhere, velocipedes in violation of his rights under the aforesaid letters patent, render themselves liable to prosecution and the payment of damages. Manufacturers are particularly cautioned against procuring licenses to make two-wheeled velocipedes, from any other parties who may claim to grant them, unless such claimants possess his authority."

Heretofore, nothing more serious then paper pellets have been discharged, injuring no one; but now the war has assumed a tangible shape, and probably blood will flow,—*from the pocket.* To this conflict a legion of interested lookers-on, await with great anxiety, the result. Among these are found infringers, and patent claimants to some trivial invention on the machine in question, all in trepidation, lest they, too, get *wounded.* Having the pecuniary interest of the public, as well as our own, at heart, we intend to keep a reporter *at the seat of war* to furnish our readers with the latest news, as it progresses.

FRONTISPIECE TO THIS VOLUME.

INSTEAD of a portrait, we this month furnish our readers with an evening "Scene in a Velocipede Riding School," as the frontispiece to volume ten. This, we have no doubt, will prove satisfactory to the public, as well as ornamental to the book. Any one who has visited a school of this kind—and what individual has not—will be struck with the life-like character of the scene which the artist has successfully depicted in our plate, in all the different phases of this fascinating amusement of the age in which we live.

In the foreground, near the centre, appears a candidate for instruction in the art, astride of the Wood Bros.' Velocipede, taking his first lesson under the direction of a professor who is in the act of giving him a start around the room. As is very natural, the pupil seems to act

with much caution lest he should get hurt in the progress of learning, as such sometimes do, and as is the case with the gentleman on the left, who is already "down in the dumps," and is likely *to be run still more down*, by the *greeney* in his rear, to say nothing about the danger which threatens him in front. The background is crowded by a motley group of scholars, over the strange positions of which the spectator will find sufficient cause for laughter. Behind the principal in the school of *the profits*, comes a New York alderman, whose proportions have so distended from feeding at the public crib, that it will be wisdom on the part of his fellows to keep out of his way, unless they wish to be "kilt entirely." The man who has spread himself out in the middle of the room illustrates the fact very conclusively, that even velocipedes do not run smoothly, in all cases. But we must leave further details for the study of our readers, who we have no doubt will be amused over the evening's performances now spread before them.

A SPLENDID NEW CHART.

By the time this falls under the notice of the reader's eye, we intend to get out the handsomest chart ever published. It will be of our usual size, and known as number seven. There will be about twenty-four designs of buggies, velocipedes and other vehicles found in it, besides an expensive and costly design, representing a velocipede riding school in this city, and a space for business cards. As we shall study to have the whole exhibit the lighter kinds of work, as well as the latest styles, this chart will be especially useful to our country friends, and make a handsome thing for the office. The price for a single copy, on a roller, sent by mail, will be only one dollar. The price of numbers five and six will hereafter be seventy-five cents each. For numbers five, six and seven —the three on one roller—two dollars and twenty-five cents. Please send in your orders at once, with the money.

NOTES ON THE LABOR MOVEMENT.

In a lecture lately delivered in New York by Wendell Phillips, he said, when the time comes that a permanent laboring class exists, the knell of republican institutions has been sounded. A great problem of American statesmanship is to make corporations consistent with American institutions. . . . The new Secretary Borie has sent a note to Congress, asking for a repeal of the eight hours law, which gives offence to the laboring classes. Senator Wilson, in compliance with the wishes of his constituents, has introduced a bill defining the intent of Congress in passing the law, which was to make a reduction in the hours of labor, but not in the remuneration therefor. . . . The Eight-hour law interpretation by Congress was omitted for want of time before adjournment. . . . Some of the members of the Workingmen's Union in this city charge employers with having offered bribes if they would leave the society, and state that they have refused to do so. . . . The Protective Society of Operative Painters report 102 men on strike from 44 shops. Some employers pay what the society demands —$4 per day, but fifty society men were reported as working ten hours a day contrary to the rule. To gain their ends the painters last fall agreed to accept $3.50 for a day of eight hours, but now say they must have $4, or not work. . . . It is said that the men employed in the arsenals under the War Department, have never yet received a full day's pay for eight-hours work, since Congress passed the act. . . . Mr. Sylvis, President of the Workingmen's National Union, insists that President Grant and his secretaries shall conform to the workingmen's construction of the law, and work only eight hours, for which they must have full pay.

LITERARY NOTICES.

We have received from S. R. Wells, publisher, 389 Broadway, a new work entitled *How to read Character*, a hand book of phrenology and physiognomy, for the use of students and examiners; with a descriptive chart for marking, illustrated by upwards of one hundred and seventy engravings. Price, postpaid, in muslin, $1.25; in paper, $1.00. For those studying the secrets of phrenology, this is a timely and useful work.

Our Young Folks, for April, is as racy and fresh on a variety of topics interesting to young people, as any number preceding it. One might almost wish himself young again, was it for no other object than to enjoy the good things in this deeply interesting juvenile publication.

The Atlantic, for April, contains Malbone, an Oldport Romance; A Thrush in a Gilded Cage; The Small Arabs of New York; Co-operative Housekeeping; Little Captain Tult; Our Painters; The Fatal Arrow; Our New President; Sedge-birds, and a variety of other articles of much interest to the general reader. Published by Fields, Osgood & Co., Boston.

CHIPS AND SHAVINGS.

Overhauling the Hackmen.—Visitors to New York will be glad to learn that Marshal Tooker has heen vigorously overhauling the dilapidated hacks of the city. He has fined several drivers heavily for having dirty vehicles, and has refused a new license to others. He has directed that every hackman, if it is demanded, shall give his customer his card, with his number, name, place of stabling, and the place of the mayor's office on it.

Sedan Chairs for Parisian Ladies.—Sedan chairs, it is stated, have recently been brought into use in Paris for ladies. Four of these old-fashioned vehicles were, a short time ago, to be seen at the respective doors of ladies of the highest fashion. Up to this time the sedan chairs have only been used for going to church and for short morning visits. A special toilet has been invented for

this sort of conveyance, consisting of a black mantilla trimmed with guipure (gimp lace), and the costume is called a *sortie d' église.*

COSTUME FOR LADY VELOCIPEDISTS.—When ladies ride on velocipedes they must wear the following dress, prescribed by the *Velocipedist:* "Let the outer dress skirt be made so as to button its entire length in front; the back part should be made to button from the boots to a point about three-eighths of a yard up the skirt. This arrangement does not detract at all from the appearance of an ordinary walking costume. When the wearer wishes to prepare for a drive, she simply loosens two or three of the lower buttons at the front and back, and bringing together the two ends of each side, separately, buttons them around each ankle. This gives a full skirt around each ankle, and, when mounted, the dress falls gracefully at each side of the front wheel."

FOUR WHEELED VELOCIPEDE.—The latest variety in the velocipede line is a four wheeled vehicle of that kind, which Mr. Julian H. Sterling has at his shop in Connecticut. It has four light wheels, about four feet in diameter, and the seat is an easy chair, placed on the reach, and so arranged as to be adjustable to the requirements of any length of limb. The treadle or crank is in the forward axle, and the machine is steered by cramping the hind wheels. The whole is very light, nicely adjusted, runs with great ease, and makes about twelve feet to a revolution of the wheels, thus giving great speed. It cannot be managed as easily in getting about corners as the two wheeled variety, and is too wide for the sidewalk, but with a fair road, like the Park, and plain going, it is said to leave everything else behind. It is by far the most comfortable velocipede we have ever seen, and could be worked by a lady easily. Mr. Sterling has them for sale, and will exhibit the one referred to, as soon as the weather permits. They are made in New York, under the Bradford patent, and are considered superior to all others for speed and comfort, by those who have used both.

BALKY HORSES.—If you have balky horses it is your own fault and not the horses, for if they do not pull true there is some cause for it, and if you remove the cause the effect will cease. When your horse balks he is excited, and does not know what to do. When he gets a little excited, stop him for five or ten minutes; let him become calm, and as soon as he is over his excitement he will, in nine cases out of ten, pull at the word. Whipping and slashing and swearing only make the matter worse. After you have gentled him awhile, and his excitement has cooled, take him by the bits, turn him each way a few minutes, as far as you can; gentle him a little; unrein him, then step before the balky horse, and let the other start first; then you can take them anywhere you wish. A balky horse is always high-spirited and starts quick; half the pull is out before the other starts; by standing before him the other starts first. By close application to this rule you can make any horse pull. If a horse has been badly spoiled, we should first hitch him to an empty wagon, and let him draw it around for awhile on level ground; then put on a little load and increase it gradually, caressing as before, and in a short time you can have a good work-horse.

VELOCIPEDIANA.—During the past month several handsome school rooms for velocipede exercise have been opened in this city. Among them is a very elegant one at Apollo Hall, in Twenty-eight street, under the charge of the Pearsall, Brothers. . . . A very objectionable feature in the show at the Empire Rink has been the appearance of two women in flesh colored tights, after the Black Crook order. . . . Sweet, the pedestrian, is preparing for a three thousand mile ride from Boston to Washington, *via* Hartford, Rome, Syracuse, Buffalo, and Cleveland. He expects to start on the 1st of June, and make a call at the White House . . . A race for $1,000 was instituted in New York lately. One of the contestants, in a circuit—eight of which constituted a mile—ran the distance in four minutes and one second. Jenny Hamburg is said to have run a mile in three minutes and thirty-six seconds. . . . . A. T. Demarest, the carriage-maker, had a race on a velocipede with a pedestrian, the pedestrian coming out ahead. . . . There are about thirty velocipede riding schools in New York city.

"CHRONICLES" CAUGHT IN A FALSEHOOD.—That *odiferous* worthy, "Genius, the Scribe," charges us with copying *his* "Caffrey Buggy" from the *Journal.* As the design was in our hands, from a New York artist, and paid for before the Journal published it, we do not understand how his charge can be sustained. We think our artist knows better than this. It is so hard to find anything good, in that *coop*, that we never think of taking anything out of it, in the form of design. Try again, Mr. Genius.

GALLS ON HORSES.—Owing to defects in collars and saddles, or a lack of seasonable attention in wet weather, the backs, breasts and shoulders of horses become badly galled. It is cruel to work them, in this condition, but in many cases it can hardly be avoided, especially on the canal. In such cases the wounds should be thoroughly sponged daily with strong soap suds, followed by a solution of saltpetre and spirits of turpentine. Put one quarter of a pound of the former and a pint of the latter into a bottle and shake them well together and apply to the wounds with a feather two or three times each day, or oftener if circumstances will permit, till the healing process commences, when the application may be discontinued.

SHARPENING SAWS.—A correspondent informs us that, in answer to an advertisement, he paid fifty cents for the accompanying information: "After filing your saw, lay it on a level board and pass over the side of the teeth with a whetstone until all the wire edge is off the teeth. This will make your saw cut true and smooth, and remain sharp longer. Your saw must be set true with a sawset."

SPECIAL NOTICE TO LATE SUBSCRIBERS.

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